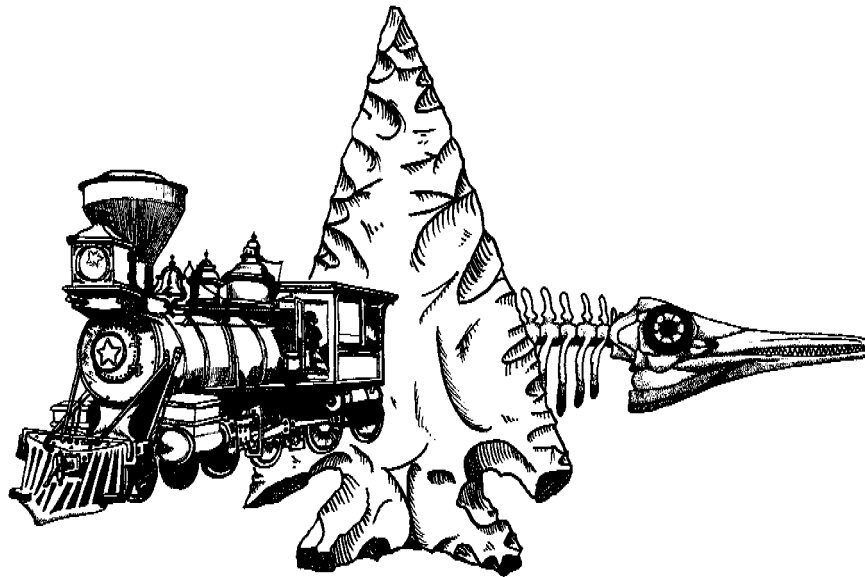


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CONTRIBUTIONS TO THE STUDY OF CULTURAL RESOURCES



OIL AND GAS / GEOTHERMAL PROGRAM  
INVENTORIES

TECHNICAL REPORT NO.3

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RENO, NEVADA



JUNE, 1979

OIL AND GAS/GEOTHERMAL PROGRAM  
INVENTORIES

by

Nancy Botti

Peggy McGuckian

Robert York

Mark Henderson

Nevada State Office  
Bureau of Land Management  
Reno, Nevada  
1978

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## INTRODUCTION

The four inventory/survey reports published here were all completed in connection with the Nevada Bureau of Land Management's oil and gas/geothermal energy exploration and development programs. These reports are representative of the kinds of data that are contained in many similar reports on file with Nevada BLM offices.

The reader, I believe, will be "teased" by the amount of information referenced that is contained in unpublished papers and reports. This simply reflects the data explosion that has gone on in Nevada archeology over the last four years -- since active Federal agency involvement in the cultural resources management field. The amount of worthwhile information accumulated has simply exceeded our abilities to publish same. For instance, the BLM has acquired far more data on the Black Rock Desert and environs than is contained in the Botti and McGuckian reports. So much data in fact that on the drawing boards is a plan to pull together and evaluate all existing Black Rock material and publish a separate Black Rock Study.

These reports were also selected to illustrate certain fundamentals of the Nevada BLM's approach to field assessments. That is, all field inventories/surveys/etc., must be systematic, replicable, professionally creditable and responsive to the requirements of the initiating activity. Other than that, a great deal of freedom is allowed and even encouraged in designing survey strategies. The ultimate goal, of course, in encouraging such freedom is to find the method or methods which prove most efficient, from various viewpoints, for particular actions. This goal, as with most paradigms, may not be obtainable.

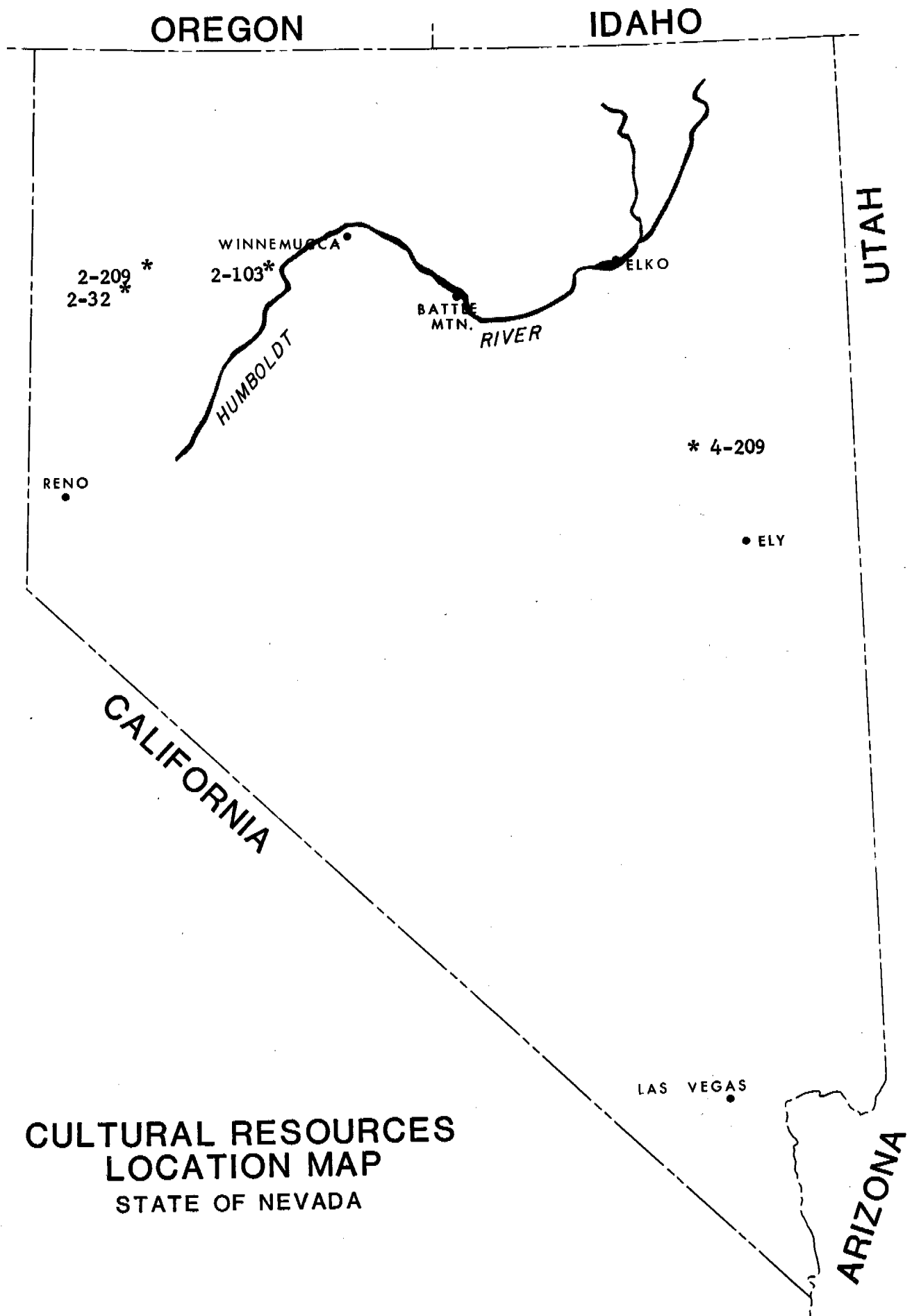
These reports also reflect the dynamic state of the CRM field in general. I think the reader will see how certain concepts over a short period of time have changed, especially in dealing with the National Register of Historic Places -- which still gives us fits.

Another area that I believe most readers will be intrigued by is how an archeologist working for a multiple land use agency like the BLM can get involved in other resource areas of concern -- i.e., Henderson's analysis of possible impacts on Sage Grouse strutting grounds. We believe this is a desirable situation, as long as the archeologist/CRM Specialist does not lose sight of the fact that his/her number one obligation is toward the protection of cultural resources.

Concerning the Series in general, we have received criticism in regards to content quality. Some have suggested the establishment of a review board to alleviate this problem. Review boards, referees, etc., are certainly necessary for most publication series, and the Nevada BLM fully intends to solicit comments from outside professionals in regards to more formal publications planned in the future, but for this particular series we must reject the idea. We feel that to establish such procedures would ultimately make the publication of these reports economically unfeasible. The establishment of a review board in itself does not appear costly or time consuming. But it becomes costly when you consider the time and money BLM personnel (archeologists, typists, etc.) must spend in such facilitating tasks as: re-producing papers and reports for the reviewer's consideration, re-distribution of papers to senior authors for re-writes in consideration of received comments; etc. Rather than doing this, we will continue with our current policy of internal review and limited editing at the Nevada State Office, Reno. Our opinion is that these reports are out for review now and we are most interested in any comments readers care to send us. Such comments should help us in constantly improving the Series.

Robert York  
BLM, Nevada State Office  
December 1978





CULTURAL RESOURCES SURVEY  
FOR  
OIL AND GAS/GEOTHERMAL LEASING  
in the vicinity of  
GERLACH, NEVADA

U. S. Department of the Interior  
Bureau of Land Management

WINNEMUCCA DISTRICT OFFICE  
SONOMA-GERLACH RESOURCE AREA  
BUFFALO HILLS PLANNING UNIT

Supplement to  
EAR No. 27-020-4-99

(This report contains sensitive data and  
should be distributed on a "need to know" basis.)

Submitted by: Nancy Botti  
Archaeologist  
BLM, Nevada State Office, Reno

January 1976

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Dates of Field Ops: August 20-22, 27-29; September 11-12, 15-19, 24-26;  
November 17-19, 24-26; December 1-2, 1975

Archaeologist: Nancy Botti

Project: Gerlach Geothermal Area Exploration

District Office: Winnemucca D.O.

Resource Area: Sonoma-Gerlach

Planning Unit: Buffalo Hills

State: Nevada

County: Washoe

Legal Description: T. 33 N., R. 23 E., Sec. 23, 24, 25, 26, 27, 30, 31,  
32, 34, 35, 36.  
T. 32 N., R. 23 E., Sec. 2, 3, 4, 5, 6, 7, 8, 9, 10,  
11, 15, 16, 17, 18, 19, 20, 21,  
29, 30.

Map Reference: U.S.G.S. Gerlach, Nev. 15' 1964, A.M.S. Lovelock, Nev.  
1:250,000, revised 1970, and BLM Buffalo Hills Planning Unit.

Background: Prehistoric Lake Lahontan at one time covered thousands of square miles of the Great Basin in northwestern Nevada, and its dessication left a large expanse of playa extending for more than one hundred miles in a southwest to northeast direction. Bordered by the massive Granite Range mountains, this continuous barren flat was divided into two sections--the Smoke Creek Desert and the Black Rock Desert--by the early pioneers.

It is hypothesized from sparse discoveries of possible man-megafaunal associations and finds of large "crude" stone artifacts that man entered the Great Basin at around 11,000 B.C. or earlier, but evidence for this is inconclusive. More serious consideration can be given an "Early Man" stage, dating from about 10,000 B.C. to 6,000 B.C.. Fluted projectile points have been found in the Great Basin, with notable occurrences in the Western Great Basin and the Black Rock Desert, and function as time markers for the Fluted Point Tradition, dating from 10,000 B.C. to 8,000 B.C. These fluted points are often found in apparent association with crescents, graters, borers, and lanceolate and stemmed projectile points which constitute the Western Pluvial Lakes Tradition, dating from 9,000 B.C. to 6,000 B.C.. These materials form a specialized tool kit and reflect a lacustrine adaptation, the earliest well-defined adaptation in the Great Basin. Settlement patterns reveal sites situated along shores of ancient lake systems and a tendency toward utilization of lacustrine resources.

The term "Desert Culture" was created to refer to a generalized cultural adaptation to arid-land resources, dating from 5,000/6,000 B.C. to A.D. 500/900. From more recent evidence, the term "Desert Archaic" or "Great Basin Archaic" has been substituted for "Desert Culture" to show that lacustrine use patterns and other adaptive strategies were utilized as well by Great Basin peoples during this time period. A variety of projectile point types, notably Northern Side Notched, Humboldt, Pinto, and Elko Series, have been found in the Western Great Basin and are considered evidence for occupation of this area during the "Great Basin Archaic" period. The results of my survey, which the "Conclusions" section will elaborate, provides further evidence for human use of the Black Rock Desert in particular during this period.

The introduction of the bow and arrow initiated the Rose Spring/Eastgate stage, dating from A.D. 500 to A.D. 1000/1200. This stage is characterized in the Western Great Basin by the occurrence of the Rose Spring and Eastgate projectile points, with no substantial evidence of significant economic change. My survey results again show these materials in the Black Rock Desert area.

The introduction of brownware ceramics, Desert Side Notched and Cottonwood projectile points mark the Late Prehistoric stage, beginning about A.D. 1000, and the advent of Paiute and Shoshonean peoples who were the ancestors of tribes found in the Great Basin at the time of historic contact.

The historic period begins with the entrance of the white man into the Great Basin. John Fremont visited the area on his second expedition while seeking to document certain geographical features for which there was a discrepancy between the maps of the country and reports of the trappers. After reaching Mary's River (the Humboldt River) in January of 1844, he continued southward along the base of the mountains, crossed the Black Rock Desert, and recorded the hot springs (now Great Boiling Springs) near present Gerlach. From there, he continued west/southwest along Godey's Rock, and eventually discovered Pyramid Lake (see Figure 2).

From the maps and reports of Fremont, along with other information gathered, it was known that the California Trail led down the Humboldt River and across the Truckee Route to central California. Jesse Applegate and his party left in 1846 from Dallas, Oregon, establishing what would become the Applegate-Lassen Trail. On May 3, 1852, William Nobles and his party left Shasta City, California to lay out a new emigrant road to the Sacramento Valley. They crossed the Sierras north of Mt. Lassen, reached Honey Lake Valley, then headed northeast and arrived at the Smoke Creek Desert, which they circled to reach Granite Creek near present Gerlach. From Granite Creek they crossed the Black Rock Desert to Black Rock Peak where they intersected the Applegate-Lassen Trail. By the next year, several companies used the Nobles Cutoff route (see Figure 2).

Beginning in 1857, with a preliminary wagon road survey from Susanville to City of the Rock in Idaho, the Fort Kearney, South Pass, and Honey Lake Wagon Road was laid out to shorten and by-pass the old Oregon and California Trails.

It is not difficult to believe that the Black Rock area could have been a stronghold for warring Indians. Winding canyons in the surrounding mountains are accessible by narrow passages, and small streams and springs provide campsites. The Black Rock Desert region became the battleground for one of the major conflicts in Nevada history. Between March of 1865 and January of 1866, a savage war, characterized by the hatred of both the Indians and the white man for each other, engulfed the area. Around the 25th of March, 1865, an Indian walked into the Granite Creek Station on the edge of the Black Rock Desert and shot Lucius Arcularius, one of the station owners. Another white man present then shot the Indian, and a few days later revenge struck the station and its three occupants. The Granite Creek Station attack was only the beginning of a series of Indian raids and military retaliations which took the lives of many people during the next ten months, and may have been partially responsible for the Indian war of 1865-1866 (Wheeler, 1972).

In 1903, the incorporation of the Western Pacific Railroad brought the railroad across the Black Rock Desert, and built the town of Gerlach.

Research Objectives: The main objective of this project was to locate possible National Register properties of significant quality and large aerial extent (10 acres or more in size) which could be adversely affected by proposed geothermal leasing. It was felt that those cultural properties of less than 10 acres, even if of National Register quality, could be mitigated under existing lease stipulations (see Appendix II). The scope of the project included the location of both historical and prehistorical (cultural) properties, the assessment of their importance, and proposing mitigating measures to insure their protection. Since there is a lack of systematic survey data for the area, with the exception of the Bell Telephone cable line (Toney/Riehl, 1970-1971), this project was initiated to serve that purpose. In locating prehistorical values, our major concern was the identification of large sites of National Register quality; smaller sites and isolated finds which could give us information valuable in solving larger problems of human usage were also recorded. In locating historical values, we were concerned with identifying actual stations and buildings, etc.; and physical remnants and/or ground evidence of historic trails, the Fremont Trail and the Nobles Cutoff route being the most prominent. A sampling procedure biased toward potential geothermal development areas was utilized in the field to accomplish these goals. Field techniques will be further explained below. This project, then, does not constitute an intensive survey under which every significant property would be located, nor does it relieve the lessee of his obligations, but it is designed to protect the BLM from leasing National Register quality properties for oil and gas and/or geothermal development that could not be adequately protected after leasing.

Field Examination Techniques: As stated in the Research Objectives, the survey was non-intensive and the sampling procedure utilized was biased toward potential geothermal development areas. Most sections were surveyed through random walk-over transects spaced no more than 200 meters apart (see Figure 5). Areas with high concentrations of material were intensively surveyed through systematic walk-over transects approximately 150 meters apart (see Figure 5 - Sections 16, 17 and 21 (Ar 27-02-31) and Section 30 site areas). In all sections, special investigation was made of prominent bluffs and/or high spots, meadow clearings, washes, sand dunes, stream channels and banks, and vegetation areas including seeps, hot springs, other springs, and ephemeral streams, as previous Great Basin surveys have shown these situations often have associated cultural properties. When archaeological and/or historical materials were observed, they became the focus of a wider and more intensive search to define site parameters. Formal sub-surface tests were not made but cut-banks, animal burrows, etc. were closely checked for indications of sub-surface cultural materials.

There were two excluded areas (see Figure 1). First, the playa was not systematically checked in some sections because the conditions were poor, making the area inaccessible. (The playa was, however, randomly checked whenever possible.) We feel, though, for obvious reasons and from studies and general knowledge of Great Basin peoples, both historic and prehistoric, that the areas of the playa were not conducive to habitation and therefore would yield relatively little evidence and material. If sites should be located in the playa area, after leasing, it is anticipated that effects can be easily mitigated under lease stipulations. Second, the uppermost slopes and mountainous regions of the Granite Range and the uppermost slopes of Godey's Rock were not checked as oil and gas/geothermal development is not anticipated for these areas. Generally, only National Resource Lands were investigated in our section-by-section survey (see Figures 1 and 5).

General field techniques included the use of U.S.G.S. topographic maps for general on-the-ground orientation. A Brunton compass was used for general locations and directions, and in triangulating specific locations. Known section corners, man-made features of relative permanence and notable natural landmarks were also utilized for field orientation. Aerial photographs were used to locate vegetation (high probability) areas, possible old roads and trails, contemporary powerlines and roads, and in general orientation.

Isolated finds and "small sites" (usually no more than 20 cultural items found over an area of topographical and vegetational sameness and restricted to present ground surface) were collected and recorded; these properties are not National Register eligible. Other larger sites of possible National Register quality were marked but not collected (with the exception of especial artifacts on the premise that they might never be located again due to soil displacement and/or unauthorized collection). All sites located were recorded on Nevada State Museum/BLM forms along with maps and photographs. The site forms are on file at the Winnemucca District Office and the Nevada State Museum.

A section-by-section breakdown is given in the "Findings" section.

Consultations and Existing Data Review: The National Register of Historic Places lists no National Register or National Register eligible sites in the project area (Federal Register, Vol. 40, and monthly supplements through Tuesday, December 2, 1975). The Nevada State Museum has one archaeological site report on file, NSM 26Wa68, for the Gerlach area. (A small lithic scatter was located within the site area during the survey, given the BLM number Ar27-02-33 and filed with the previous NSM site designation.) One historical site, Granite Creek Station, was known in the area but no record was located. Information on Granite Creek Station also includes Camp McKee, a temporary military tent camp at the station.

Sources used in an intensive literature search are listed in the "Bibliography".

On August 26, 1975 I consulted with Alvin McLane concerning the historical trails in the area. From his personal experience, his maps, and several journals written by early emigrants, he plotted the possible routes onto my maps (refer to Figure 2). He felt that physical evidence of the trails themselves would be difficult to find in the Black Rock/Gerlach area; in addition, deletions for the existence of the trails without some physical remnant would not be necessary.

In September 1975, Robert Lund, BLM State Office Outdoor Recreation Planner, talked with James Linebaugh, President of the Trails West organization. Mr. Linebaugh described what the trail should look like, from the physical evidence in other areas of Nevada, if it were to be located. On September 30, 1975, I visited the Pony Express station near Sand Mountain and saw the remnants of the Pony Express Trail as it passed through that area in order to familiarize myself with its appearance for comparative data.

On October 6, 1975, Robert York, BLM Cultural Management Specialist, also talked with Mr. Linebaugh. It was decided that it would be difficult to locate the physical evidence of the trails in the project area; Mr. Linebaugh basically agreed that deletions solely on the basis of existence at one time, rather than on definite physical remnants that can be identified today, would not be necessary.

While in the field I spoke with several residents of Gerlach, but none of them knew of any evidence on the ground of the trails, although they told me about Granite Creek Station and the watering hole at Deep Hole (not in the survey area).

No systematic survey of the project area has been done. This substantially constitutes the present state of Cultural Resources knowledge of the area.

Area and Environmental Setting: The project area is located to the northeast, northwest, and southwest of Gerlach, accessible by Highway 34 or Highway 81 (refer to Figure 1 and Figure 6). Granite Point and Godey's Rock are prominent features. The area lies at the southwest end of the Black Rock Desert, and is bordered on the north by the Granite Range and on the west by the Smoke Creek Desert. Three landscapes comprise the area: the playa of the Black Rock Desert (prehistoric Lake Lahontan), the foothills of the Granite Range and Godey's Rock, and the mountains. Geology: The mud flats are marked by dessication fissures in an alkali crust, sand dunes lie at the playa edge, decomposed granite is strewn over the foothills and lower slopes, and granodiorite is prominent on the upper bajada slopes. Elevation: Elevations range from an average of 3,900 feet on the playa, to 3,960 feet on the lower slopes, to 4,000-5,000 feet on the upper slopes, and up to 7,000 feet in the mountainous areas (see Figure 7). Soil: Alkali mud flats comprise the playa. The dunes are coarse sand, light grey to tan in color (see Figure 10). Both areas have mixed basic igneous, granodiorite, and metamorphic materials. The alluvial fans and Lahontan terraces of the lower slopes are composed of a light brown sandy loam, decomposed granite, and basic igneous extrusive material from the volcanic flowplane. The mountains are covered with granodiorite boulders, with sparse limestone outcrops (see Figure 9). Vegetation: There are four basic areas of vegetation. The upper slopes of the Granite Range, from about 4,000 to 6,000 feet, form a transitional area from Northern Desert Shrub pattern to a sparse Juniper Woodland pattern, and includes Artemesia T., rabbitbrush, cheatgrass, Ephedra, and juniper. The upper and lower slopes of the Granite Range, from about 3,500 to 4,000 feet, exhibit a Northern Desert Shrub pattern composed primarily of Artemesia T., rabbitbrush, and cheatgrass. The lower slopes of the Granite Range, flat areas, and sand dunes generally form a transition zone from Northern Desert Shrub to Salt Desert Shrub pattern. The sand dunes, flat areas lying at the lowest elevations and closest proximity to the playa itself, and playa margins exhibit primarily a Salt Desert Shrub pattern, including Atriplex, saltgrass, salt shrub, greasewood, and giant rye grass mostly associated with hot spring and seep areas. The playa is barren of vegetation. Fauna: A few jackrabbits were noted along with domestic livestock and livestock carcasses, rodent burrows and tracks, and numerous birds. Water: The primary sources of water in the area today are hot springs (usually in the foothill and playa margin regions), cold springs, seeps, and ephemeral streams; these sources are relatively abundant. Great Boiling Springs is a prominent feature (see Figure 6).

#### Findings (Figure 3)

T. 33 N., R. 23 E.

Section 23: Uppermost slopes not checked.

Historical: Negative



Prehistorical: Positive

AR27-02-34 (NSM 26Wa2251) is an obsidian projectile point found on the side of a stream bed at the foot of Bowen Canyon. The point is medium sized, with a slightly concave base but missing the basal tangs, possibly in the Humboldt series, and moderately wind exposed. Collected as an isolated find. In addition, an occupational area may exist further up the Bowen Canyon stream cut; investigation of this possibility is beyond the scope of this project.

Ar27-02-35 (NSM 26Wa2252) is a chert projectile point found in a low slope just east of the mouth of Bowen Canyon. The point is small, with a missing tip, and is probably the Sierra type (Hester and Heizer, 1973) of Desert Side Notched, dating from A.D. 1500 to present historic time. Collected as an isolated find. In addition, as above, an occupational area may exist further up the Bowen Canyon stream cut.

#### Section 24

Historical: Negative

Prehistorical: Negative

Section 25: Playa not accessible; not checked.

Historical: Negative - Probable

Prehistorical: Negative - Probable

#### Section 26

Historical: Positive

Hs27-02-2 (NSM 26Wa2327) is Granite Creek Station, located on private land east of Highway 34, near the playa margin. It functioned as a stopping point on the California Trail (Nobles Cut-off and Applegate-Lassen Road), and as a stage station at the intersection of the road from California, by way of Chico-Susanville, to Idaho and the Humboldt River country. Camp McKee, a temporary military tent camp, existed at the site for just over one year, and functioned mainly as protection for the stages. Rock foundations are still in existence on the site (see Figures 12 and 13).

Prehistorical: Negative

Section 27: Upper slopes not checked.

Historical: Negative

Prehistorical: Negative

#### Section 30

Historical: Negative

Prehistorical: Negative

Section 31

Historical: Negative

Prehistorical: Positive

Ar27-02-50 (NSM 26Wa2326) is an obsidian flake found on the side of a sand dune below the lower slopes of the Granite Range, just east of the Smoke Creek Desert playa. Collected as an isolated find.

Section 32: Upper slopes not checked.

Historical: Negative

Prehistorical: Negative

Section 34: Upper slopes not checked.

Historical: Negative

Prehistorical: Negative

Section 35: Upper slopes not checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-36 (NSM 26Wa2253) is a small obsidian projectile point, leaf-shaped, with sloping sides and a square, thinned base, possibly a Cottonwood Leaf Point. It was found on the lower slopes of the Granite Range, just northwest of Highway 34. Collected as an isolated find.

Section 36: Playa inaccessible; not checked.

Historical: Negative - Probable

Prehistorical: Negative - Probable

T. 32 N., R. 23 E.

Section 2: Playa inaccessible; not checked.

Historical: Negative - Probable

Prehistorical: Negative - Probable

Section 3: Uppermost slopes not checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-32 (NSM 26Wa2250) is a small site located on a knoll-like area, including an alkali wash just above it which spreads into a meadow. It

is possible that the site may have sub-surface components buried in the meadow. One chert discoidal scraper/chopper was collected on discovery of the site, but the obsidian flakes found with it were left in place. On a later visit, a projectile point fragment, also of obsidian, was collected; the point has a missing tip and a possibly broken base, but has not been greatly weathered. No other materials were collected. There is possibility of depth to the site.

Ar27-02-37 (NSM 26Wa2254) is a small site which lies adjacent to, and north of, the boundary between Sections 3 and 10, approximately 0.1 mile east of Highway 34, along the fenceline. The Granite Range lies to the west. Two chert flakes and 17 obsidian flakes were collected within a 4 meter square area along the fenceline in an alkali wash area.

Section 4: Upper slopes not checked.

Historical: Negative

Prehistorical: Negative

Section 5

Historical: Negative

Prehistorical: Negative

Section 6

Historical: Negative

Prehistorical: Negative

Section 7

Historical: Negative

Prehistorical: Negative

Section 8

Historical: Negative

Prehistorical: Negative

Section 9: Upper slopes not checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-49 (NSM 26Wa2277) is a chert flake found on the lower slope of the Granite Range, just south of the stream cut, and west of Highway 34. Collected as an isolated find.

Ar27-02-87 (NSM 26Wa2278) is an obsidian flake found on the lower slope of the Granite Range, south of the stream cut, west of Highway 34, and just north of the boundary between Sections 9 and 16. Collected as an isolated find.

Section 10: Only national resource lands checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-33 (NSM 26Wa68 and 26Wa1421) is a scatter of chipped lithic material, primarily obsidian and chert flakes, located just west of the fence line for the private property surrounding Great Boiling Springs, and east of Highway 34. The site has been recorded previously with the above Nevada State Museum numbers, and the above BLM number has been given to this lithic scatter as a part of that site. No materials were collected (see Figure 8).

Section 11: Playa inaccessible; not checked.

Historical: Negative - Probable

Prehistorical: Negative - Probable

Section 15: Only national resource lands checked.

Historical: Great Boiling Springs Park is located on private land about 0.75 mile northwest of Gerlach. It served as a stopping point on the Fremont Trail, the California Trail, and the Honey Lake Road (see Figure 6).

Prehistorical: Great Boiling Springs Park (area) has been recorded as NSM 26Wa68 (see above), located about 0.5 mile north of Gerlach, and extending on both sides of the highway. It is described as a temporary campsite with surface chipping refuse and occasional artifacts scattered about.

Ar27-02-42 (NSM 26Wa2259) is a small site consisting of two obsidian flakes found on the flats at the foot of the lower slopes, above the sand dunes at the playa margin, just north of the fence which marks the private land, and south of the dirt road into Gerlach. The two flakes were found within a one meter square area. Collected as a small site.

Ar27-02-43 (NSM 26Wa2271) is a small site consisting of one chert flake and one obsidian flake found within one meter of each other. The site is located about 200 meters due east of Ar27-02-42. Collected as a small site.

Section 16: Only national resource lands checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-38 (NSM 26Wa2255) is a small site located on the lower slopes of the Granite Range at the southern foot of Granite Point, north of the highway, and west of the gravel pit. The site consists of one large

obsidian knife; and one small obsidian flake which is broken on one side, possibly a retouched flake but probably a Great Basin Transverse Type II (Hester and Heizer, 1973) crescent fragment. The materials found were collected.

Ar27-02-39 (NSM 26Wa2256) is a small site of chipped lithic material located on the lower slope of the Granite Range at the southern foot of Granite Point, approximately 100 meters southeast of Ar27-02-38. The site consists of two chert flakes, one basalt flake, and three obsidian flakes found within a four meter square area; one of the chert flakes is utilized. The materials found were collected.

Ar27-02-40 (NSM 26Wa2257) is a small site located on the lower slope of the Granite Range at the southern foot of Granite Point, just north of the highway at the gravel pit area, and just east of Ar27-02-39. The site consists of two obsidian flakes found within a two meter square area. The materials found were collected.

Ar27-02-41 (NSM 26Wa2258) is a small obsidian flake located on the lower slope of the Granite Range, just northeast of the highway, and southeast of the section marker for Sections 8, 9, 16 and 17, in the southwest area of the Granite Range. Collected as an isolated find.

Ar27-02-31 (NSM 26Wa2249) is a large open site with extensive lithic scatter. It is located in a seepage area with associated sand dunes, south of the highway, east of the dirt road through Godey's Gap, and west of the hot springs area (on private lands). A Bell Telephone cable and road run through the site, and the site has possibly been previously recorded by James Toney (Toney/Riehl, 1970-71) as a part of that survey (see NSM 26Wa1427); the chance of some disturbance of the site by that survey may exist. The scatter extends about 150 meters north of the cable road, and extends south slightly into Sections 17 and 21 through the dunes. The materials found included a large amount of obsidian and chert flakes, some fine-grained basalt, several mano concentrations and task-specific areas, and what appeared to be a possible hearth feature. One large obsidian projectile point, with missing tip, a slightly convex base which is also thinned, and a possible side notch, possibly in the Elko series, was collected in fairly good condition. All other materials were not collected. There is a possibility of depth at the seepage area around the southeast end of the site (see Figure 11).

#### Section 17

Historical: Negative

Prehistorical: Positive

Ar27-02-74 (NSM 26Wa2293) is a small chert flake found on the low slope below, and southeast of, Godey's Gap, just south of the road through the Gap. Collected as an isolated find.

Ar27-02-75 (NSM 26Wa2294) is a chert flake found on the low slope below, and southeast of, Godey's Gap, just south of the road through the Gap, and west of Ar27-02-74. Collected as an isolated find.

Ar27-02-76 (NSM 26Wa2295) is a chert scraper found at the base of the lower slopes below Godey's Gap, at the foot of a sand dune. Collected as an isolated find.

Ar27-02-77 (NSM 26Wa2296) is an obsidian flake found at the base of the lower slopes of Godey's Gap, at the foot of a sand dune, and northeast of Ar27-02-76. Collected as an isolated find.

Ar27-02-78 (NSM 26Wa2297) is an obsidian scraper found at the bottom of the slope below Godey's Gap, on the side of a sand dune, and northeast of Ar27-02-77. Collected as an isolated find.

Ar27-02-79 (NSM 26Wa2298) is a chert flake found on the lower slope of Godey's Gap, above the sand dunes, and north of Ar27-02-77. Collected as an isolated find.

Ar27-02-80 (NSM 26Wa2299) is a possible chert flake found just below the road through Godey's Gap, on the southeast slope, above the dunes, and northwest of Ar27-02-76. Collected as an isolated find.

Ar27-02-81 (NSM 26Wa2300) is a small site of chipped lithics located on a sand dune northwest of Godey's Gap, at the base of the slope, and west of the overhead powerline. The site consists of seven chert flakes found within a two meter square area on the top of the dune; all materials were collected.

Ar27-02-82 (NSM 26Wa2301) is a chert flake found in a dry wash area below a low sand dune, north of Godey's Gap, and west of the powerline. Collected as an isolated find.

Ar27-02-83 (NSM 26Wa2302) is a chert scraper found near a dry wash below a low dune, north of Godey's Gap, west of the powerline, and due west of Ar27-02-82. Collected as an isolated find.

Ar27-02-84 (NSM 26Wa2303) is a chert flake found near a dry wash below a low dune, north of Godey's Gap, west of the powerline, and due west of Ar27-02-83. Collected as an isolated find.

Ar27-02-85 (NSM 26Wa2304) is a chert flake, possibly modified, found on a low slope below Godey's Rock, northwest of Godey's Gap, and west of the powerline. Collected as an isolated find.

Ar27-02-122 (NSM 26Wa2322) is a small site of chipped lithic material found at the fork in the road through Godey's Gap where one road continues toward Godey's Rock while the other road falls farther to the southeast. The site consists of four fairly small chert flakes found within a one meter square area; all materials were collected.

Ar27-02-31 (NSM 26Wa2249), as previously described, also extends into this section in the southeast quarter.

Section 18

Historical: Negative

Prehistorical: Positive

Ar27-02-120 (NSM 26Wa2320) is a chert flake found at the base of a sand dune west of Godey's Rock, but south of the dirt road around the Rock. Collected as an isolated find.

Ar27-02-121 (NSM 26Wa2321) is a small obsidian flake found in a dry wash area west of Godey's Rock and the road around the Rock, and just west of the dirt road along the powerline. Collected as an isolated find.

Section 19: Uppermost slopes of Godey's Rock not checked.

Historical: Negative

Prehistorical: Positive

Ar27-02-86 (NSM 26Wa2305) is a chert flake, possibly modified, found on a low slope of Godey's Rock on the east side, and west of the dirt road around the Rock; a sand dune intersects the slope where the flake was found. Collected as an isolated find.

Ar27-02-107 (NSM 26Wa2307) is a small site consisting of two chert flakes found within a four meter square area. The site is located in a dry wash area at the base of the slope of Godey's Rock, just southeast of the dirt road around the Rock. All materials were collected.

Ar27-02-108 (NSM 26Wa2308) is a chert flake found on the lower slope of Godey's Rock on the east side, and west of the dirt road around the Rock and Ar27-02-107. Collected as an isolated find.

Ar27-02-109 (NSM 26Wa2309) is a chert flake found on a low slope of Godey's Rock on the east side, west of the dirt road around the Rock, and southwest of Ar27-02-108. Collected as an isolated find.

Ar27-02-110 (NSM 26Wa2310) is a small obsidian projectile point base with sloping shoulders forming into a pointed base, possibly in the Pinto series. It was found on a low sand dune at the base of the lower slope of Godey's Rock on the east side, east of the dirt road around the Rock, and south of Ar27-02-109. Collected as an isolated find.

Ar27-02-111 (NSM 26Wa2311) is a small obsidian flake found in a flat area at the base of the lower slopes of Godey's Rock on the east side, east of the dirt road around the Rock, and northeast of Ar27-02-110. Collected as an isolated find.

Ar27-02-112 (NSM 26Wa2312) is a small obsidian flake found in a dry wash area at the base of the lower slopes of Godey's Rock on the east side, east of the dirt road around the Rock, and north of Ar27-02-110. Collected as an isolated find.

Section 20

Historical: Negative

Prehistorical: Positive

Ar27-02-47 (NSM 26Wa2275) is a chert flake found on a flat area just south of the boundary between Sections 17 and 20, and just east of the stream cut. Collected as an isolated find.

Ar27-02-48 (NSM 26Wa2276) is a chert flake found on a flat area south of the boundary between Sections 17 and 20, and about 0.1 mile east of the stream cut. Collected as an isolated find.

Ar27-02-67 (NSM 26Wa2286) is a chert domed scraper, found at the base of the lower slope below the road to Godey's Rock, southwest of Godey's Gap. Collected as an isolated find.

Ar27-02-68 (NSM 26Wa2287) is a possible chert flake found at the base of the lower slope below the road to Godey's Rock, southwest of Godey's Gap, and about 80 meters south of Ar27-02067. Collected as an isolated find.

Ar27-02-69 (NSM 26Wa2288) is a large chert flake found at the base of the lower slope below the road to Godey's Gap, in a low dune area just north of another dirt road. Collected as an isolated find.

Ar27-02-70 (NSM 26Wa2289) is a large chert flake found on a low dune just northwest of the dirt road, near an old stream cut, southwest of Ar27-02-47. Collected as an isolated find.

Ar27-02-71 (NSM 26Wa2290) is a chert flake found at the base of a low dune at the foot of the lower slopes, near an old stream cut, and northwest of Ar27-02-70. Collected as an isolated find.

Ar27-02-72 (NSM 26Wa2291) is a small site located at the foot of the lower slopes at Godey's Gap, on the side of a sand dune, south of Ar27-02-75. The site consists of one flake and one core remnant made of chert, both lying within a two meter square area. All materials were collected.

Ar27-02-73 (NSM 26Wa2292) is a large chert flake found on the side of a sand dune at the foot of the slope from Godey's Gap, near an old stream bed, and east of Ar27-02-72. Collected as an isolated find.

Ar27-02-106 (NSM 26Wa2306) is a utilized flake found on a low sand dune on the east side of Godey's Rock, and west of the dirt road around the Rock. Collected as an isolated find.

Section 21: Plays area inaccessible; not checked.

Historical: Negative - Probable



Prehistorical: Positive

Ar27-02-44 (NSM 26Wa2272) is a small site found in a flat area at the foot of the lower slopes, just south of the boundary between Sections 16 and 21. The site consists of three obsidian flakes found within a two meter square area. All materials were collected.

Ar27-02-45 (NSM 26Wa2273) is a small site found in a flat area at the foot of the lower slopes, just south of the boundary between Sections 16 and 21, and east of Ar27-02-44. The site consists of four small obsidian flakes found within a four meter square area. All materials were collected.

Ar27-02-46 (NSM 26Wa2274) is an obsidian flake found in a flat area at the foot of the lower slopes, just south of the boundary between Sections 16 and 21, immediately southeast of the dirt road as it runs through the northwest quarter of Section 21. Collected as an isolated find.

Section 29: Playa not accessible; not checked.

Historical: Negative - Probable

Prehistorical: Negative - Probable

Section 30:

Historical: Negative

Prehistorical: Positive

Ar27-02-113 (NSM 26Wa2313) is a chert flake, possibly a domed scraper, found on a sand dune at the foot of the lower slope of Godey's Rock at the southeast end, south of the dirt road. Collected as an isolated find.

Ar27-02-114 (NSM 26Wa2314) is a small site found in a dry wash at the base of a sand dune, south of Ar27-02-113. The site consists of two chert flakes found within a 0.5 meter square area; the materials were collected.

Ar27-02-115 (NSM 26Wa2315) is a chert flake, possibly a domed scraper fragment, found in a dry wash at the base of a sand dune, south of Godey's Rock and south of the dirt road, and southeast of Ar27-02-114. Collected as an isolated find.

Ar27-02-116 (NSM 26Wa2316) is a chert flake found at the base of a sand dune, south of Godey's Rock and the dirt road, and just north of the railroad tracks. Collected as an isolated find.

Ar27-02-117 (NSM 26Wa2317) is a small site found on a sand dune east of the major concentration of Ar27-02-123, just north of the railroad tracks. The site consists of five obsidian flakes found within a two meter square area. All materials were collected.

Ar27-02-118 (NSM 26Wa2318) is an obsidian flake found just northeast of Ar27-02-117 in a sand dune. Collected as an isolated find.

Ar27-02-119 (NSM 26Wa2319) is a small site found in a flat, dry area north of Ar27-02-118. The site consists of one small obsidian flake and one obsidian scraper found within a two meter square area. All materials were collected.

Ar27-02-123 (NSM 26Wa2323) is an extensive lithic scatter of obsidian and chert flakes. It is located across a group of sand dunes, extending into an ephemeral stream which borders the railroad tracks. The dunes lie southeast of Godey's Rock, about one-half mile south of the dirt road around the Rock, and north of the railroad tracks. There is a possibility of depth in the sand dunes, especially in association with the stream. No materials were collected. (See Figure 10.)

Ar27-02-124 (NSM 26Wa2324) is an extensive lithic scatter of obsidian and chert materials. The site is located on a sand dune directly south of the railroad tracks where they begin to bend going into Gerlach. The dune lies southeast of Godey's Rock, about 0.75 mile south of the dirt road, and south/southwest of Ar27-02-123. There is a possibility of depth in the dune. One obsidian projectile point was collected; the point is in excellent condition, unweathered, having Scottsbluff affinities with a square base that displays basal thinning; probably dating from 9000 B.P. to 6000 B.P.. The condition of the point may also indicate that it has come to the surface recently and that, therefore, the dune may have some depth. No materials were collected except the one projectile point.

Ar27-02-125 (NSM 26Wa2325) is an extensive lithic scatter, possibly an extension of Ar27-02-123, located across a group of sand dunes which parallel the railroad tracks, and directly north of the tracks. The dunes lie about 0.5 mile south of the dirt road around Godey's Rock at the southern end. The site consists mainly of obsidian and chert flakes, with high concentration areas. There is a possibility of depth in the dune. No materials were collected.

No physical evidence of historic trails was located, other than Granite Creek Station, in the project area. The absence of physical remains is due to a number of causes, including erosion and deposition through wind and water damage, and modern construction of roads over the trails.

Detailed site reports are on file at the Winnemucca District Office of the Bureau of Land Management and the Nevada State Museum.

#### Archaeological Conclusions

Because this survey was non-intensive, it is impossible to draw any definite conclusions solely on the basis of its results. My "conclusions" therefore should be looked at more as suggestions for future lines of inquiry. However, the information gained from the project can be used to contribute in several problems and hypotheses concerning the Great Basin.

The first appearance of man in the Great Basin can be indicated by point typology, and has been speculated to have occurred in the Anathermal. The assemblages in the Black Rock, though, show minimal subjection to weathering and water-rolling, affording no evidence of subjection to deep water immersion. Roger Morrison, in his work in the Carson Desert (Morrison, 1964), postulated that in the Late Sehoo stage of Lake Lahontan the lake was shallower, creating a vast, marshy lakeside situation into which present interpretation of the artifact record best fits. Man could have entered as the middle Sehoo receded into its shallower final lake manifestation; the middle Sehoo recession occurred at the beginning of the Anathermal. Typological evidence, along with radiocarbon dates of the final Lahontan maximum suggests occupation of the Black Rock Desert began toward the beginning of the Anathermal, around 9700 B.P. (Clewlow, 1968). The spread of projectile point sequence (see Appendix III for inventory and location of projectile points) indicates continuous occupation and evidence of a prehistoric population living there over long enough time to perhaps test the "Desert Culture" theories and Antevs climatological scheme in future research. The early types, including lanceolate points and crescents indicated the area was once occupied by people with a Western Pluvial Lakes Tradition. The abundance of scrapers (perhaps used as multi-purpose tools in a small tool kit) may indicate a hunting lifestyle; and the grinding tools found at Ar27-02-31 may indicate gathering activities and exploitation of local plant resources. The Elko and Pinto series projectile points, attributed to the Medithermal, may indicate that the Black Rock Desert was utilized to some extent as a hunting and perhaps camping area during the early Medithermal, but it was probably not utilized as extensively during this period as it was during the Anathermal when it was presumably a wetter and more desirable habitat. Future research results could substantiate this hypothesis by indicating the relative abundance, or lack of, these points as compared with the number of points attributed to the Anathermal period. During the latter Medithermal (late prehistoric or proto-historic) the desert basin was used much less, as evidenced by the rare occurrence of Rose Spring and Eastgate projectile points. We do, however, find Desert Side Notched and Cottonwood projectile points which may indicate late occupation by Paiute and Shoshonean peoples extending into historic periods.

In the latter Medithermal one would expect that intensive utilization of the runoff from hot springs would begin by situating the habitat in these areas. Later sites, then, should be located in association with springs, seeps, or other water sources as it became necessary to rely on these instead of the open lake for water and food resources. The Desert Side Notched and possible Cottonwood projectile points were both found near present ground water and were both on the upper slopes of the Granite Range. This suggests that the upper slopes were either not greatly utilized during the earlier, higher levels of the lake and more widely utilized in later times, and/or that the fluctuations in lake levels need to be investigated further. The rest of the sites located in the survey provide mixed results, with relatively early sites also associated with present ground water (see Figure 3). (Have these water sources endured for an extremely long period of time? What scope of adaptation patterns has allowed this type of mixed results? It might be valuable to systematically surface collect the two large site areas [Ar27-02-31 and the area encompassing Ar27-02-123, Ar27-02-124, and Ar27-02-125] and subsequently analyze and compare the results from that investigation.)

From recent studies, it would seem that the original "Desert Culture" should be expanded to portray both arid desert and lacustrine adaptations in a complex pattern of exploitation. Ecological studies have indicated that a single arid adaptation system has prevailed more or less unchanged since the earliest occupation of the eastern Great Basin, while in the west, a number of subsistence changes and variations have been demonstrated. It may be possible, then, to postulate that during much of its prehistory, the Great Basin may have been two or more large physiographic regions, which, although similar in many ways, had differing human responses to the environmental potential (Clewlow, 1968). In addition, recent rainfall studies for the Great Basin indicate a complexity of sub-areas with respect to precipitation and vegetation; archaeological evidence could also project such divisions into the past. One question for future inquiry would be whether or not the boundaries exist between these areas and, if they do exist, where the boundaries lie. A number of detailed studies of the Black Rock Desert area sequence and adaptation patterns may help to answer these problems.

#### National Register Recommendations

The area encompassing T. 32 N., R. 23 E., Sections 16 (all national resource lands), 17, 19, 20, and 21 (N-1/2) qualifies as a National Register eligible district on archaeological grounds under 36 CFR 800.10(4).

The area encompassing T. 32 N., R. 23 E., Sections 30 (SW-1/4), and 31 (NW-1/4); T. 32 N., R. 22 E., Sections 25 (SE-1/4), and 36 (NE-1/4) qualifies as a National Register eligible district on archaeological grounds under 36 CFR 800.10(4).

Granite Creek Station, Hs27-02-2 (NSM 26Wa2327) qualifies as a National Register eligible site on historical grounds under 36 CFR 800.10(1), and 36 CFR 800.10(4). Only the site itself is of quality to be recommended to the National Register, and does not include the surrounding areas in an eligible status.

#### Mitigation Recommendations

All isolated finds and "small sites" referred to in field techniques were collected and thereby fully mitigated. No special consideration will be given these properties except as a part of the importance of the areas in which they lie and their contribution to the status of that area; and as indicators, in a non-intensive survey, of the amount of additional material in the immediate area. All materials have been turned over to the Nevada State Museum for curation.

To protect the above National Register eligible properties we recommend deletions from geothermal development OR "no surface occupancy" lease stipulations for the following areas (see Figure 4):

T. 32 N., R. 23 E., Section 16 - All national resource lands.  
Section 17 - All national resource lands.  
Section 20 - All national resource lands.  
Section 21, N-1/2. All national resource lands.

T. 32 N., R. 23 E., Section 30, SW-1/4. All national resource lands.  
Section 31, NW-1/4. All national resource lands.

T. 32 N., R. 22 E., Section 25, SE-1/4. All national resource lands.  
Section 36, NE-1/4. All national resource lands.

T. 33 N., R. 23 E., Section 25, W-1/2. All national resource lands.  
Section 26 - All national resource lands  
(Granite Creek Station "buffer zone")

Since no physical remnants of the historic trails through the area were located, we ask for a deletion for the Granite Creek Station (Hs27-02-2) only, and do not feel it is necessary to ask for deletion of the areas through which the trails passed without some physical evidence. It is our recommendation that previous deletions for trails in this area are no longer necessary. Other properties which may be encountered will be mitigated under lease stipulations. The lessee is still obligated under the lease to perform an intensive investigation of the area prior to surface disturbance. This study in no way relieves the lessee of his obligations.

This report contains sensitive data which, if widely known, could contribute to unauthorized collection of and/or destruction of irreplaceable cultural values and should be distributed on a "need-to-know" basis only.

CR Inventory Acreage (see Figures 1 and 5)

Study Area: 14,080

Extensive (areas subjected to actual field investigations): 9,280 acres.

Intensive: Approximately 1,100 acres or 7.8% of study area acreage.

Time Expenditures

Field: 192 hours (24 working days)

Office: 473 hours (59-1/8 working days)

Total: 665 hours (83-1/8 working days)

Submitted by: Nancy Botti

Nancy Botti  
Signature

Date:

Jan 26, 1976

Title: Archaeologist

BLM, Nevada State Office, Reno

Reviewed by: Robert York

Robert York  
Signature

Date:

Jan. 26, 1976

Title: BLM Cultural Management Specialist  
Nevada State Office, Reno

## Bibliography

### Historical

- Fremont, John C. 1845. The exploring expedition to the Rock Mountains in the year 1842, and to Oregon and north California in the years 1843-'44: House of Representatives Senate No. 174, 28th Congress, 2nd Session. Gales and Seaton, Washington, D.C.
- Hart, Herbert. 1965. Old Forts of the Far West. Superior Publishing Co., Seattle, Wash.
- Helfrich, Devere. 1971. "Applegate Trail". In: Klamath Echoes. Klamath County Historical Society, Klamath Falls. No. 9
- Hunt, Thomas. 1974. Ghost Trails to California. American West Publishing Co., Palo Alto, Calif.
- McLane, Alvin. 1970. Evaluation of the Black Rock Desert, Humboldt and Pershing Counties, Nevada, for eligibility for Registered Natural Landmark designation. Nevada Outdoor Recreation Association, Inc., Reno, Nev.
- Mordy, Brooke and Donald McCaughey. 1968. Nevada Historical Sites. University of Nevada System, Desert Research Institute.
- Old Records Division, Adjutant-General's Office, Vol. IV, Manuscript 187.
- Ruhlen, Colonel George. 1964. Early Nevada Forts. In: Nevada Historical Society Quarterly. Vol. VII, No. 3-4. Nevada Historical Society, Reno, Nevada.
- Thompson, Thomas and Albert West. 1958. History of Nevada 1881. Howell-North, Berkeley, Calif.
- Wheeler, Sessions. 1972. The Nevada desert. Caxton Printers, Ltd., Caldwell, Idaho.
- Wilson, Thomas. 1957. Pioneer Nevada. Harolds Club, Vol. 1, 105, Reno, Nev.

### Archaeological

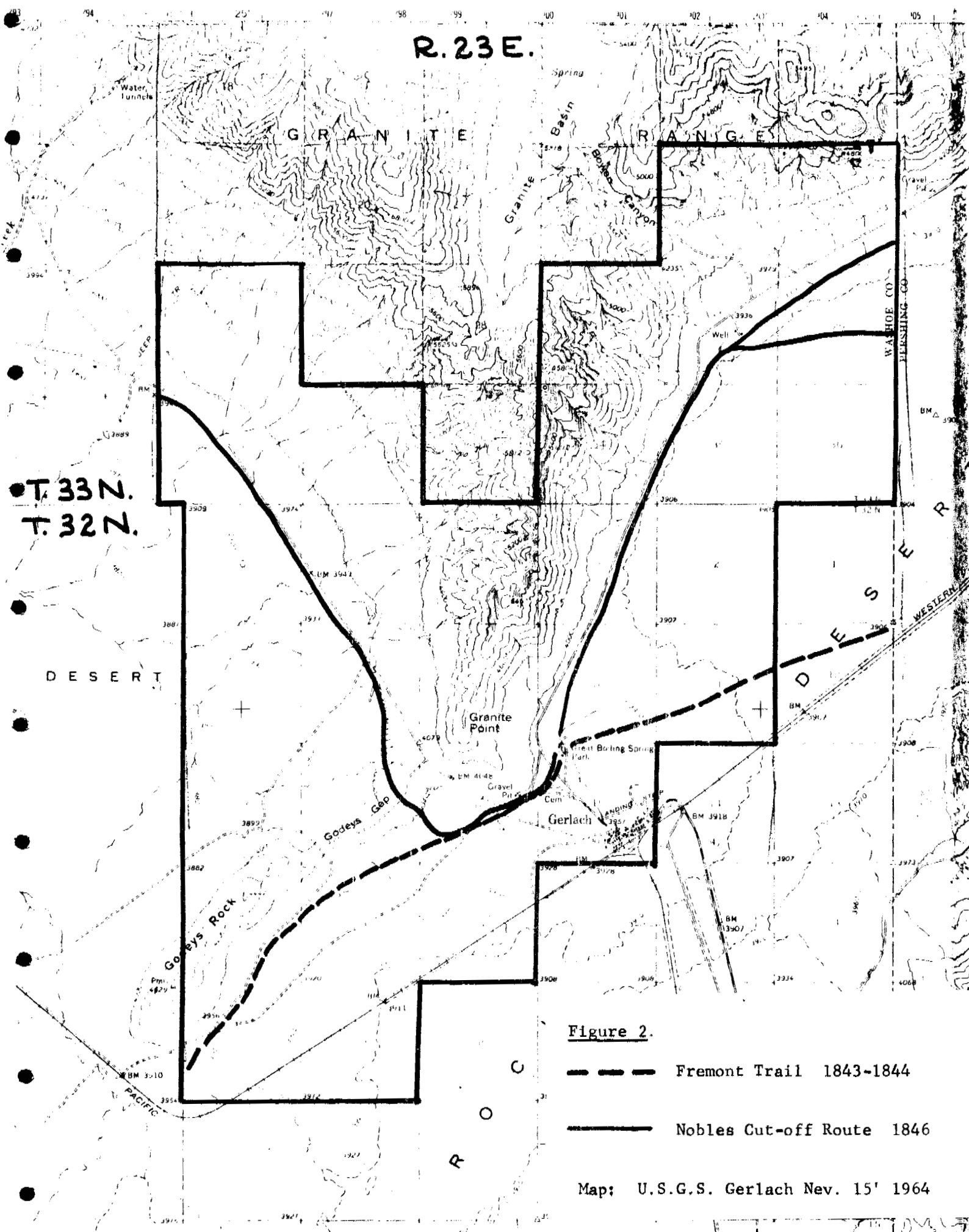
- Clewlow, William C. 1968. Surface archaeology of the Black Rock Desert. UCAS - R 73: 1-94.
- \_\_\_\_\_ and Richard Ambro. 1972. The Grass Valley archaeological project. Nevada Archaeological Society, Reno. No. 1.
- Frazier, Rex. n.d. Index to Nevada point typology including adjoining areas. Manuscript.
- Hester, Thomas. 1973. Chronological ordering of Great Basin prehistory. UC - CARF 17.
- \_\_\_\_\_ and Robert Heizer. 1973. Review and discussion of Great Basin projectile points: forms and chronology. Manuscript.

Morrison, Roger B. 1964. Lake Lahontan: geology of southern Carson desert, Nevada. Geological Survey Professional Paper No. 401, Washington, D.C.

Steward, Julian H. 1938. Basin-plateau aboriginal sociopolitical groups. Smithsonian Institute, Bureau of American Ethnology, Washington, D.C. Bulletin No. 120.



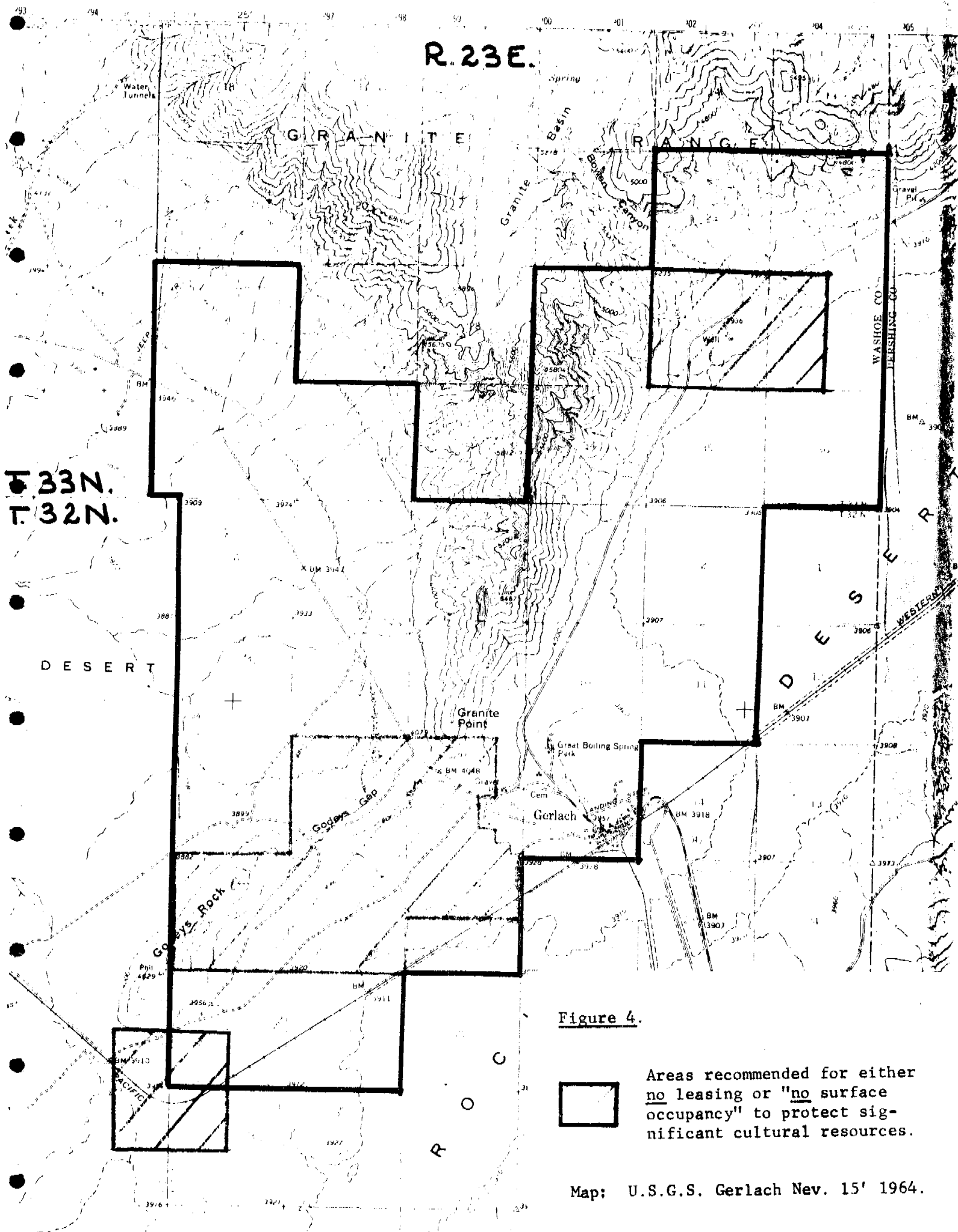




Bureau of Land Management, Nevada  
Contributions to the Study of Cultural Resources  
Technical Report No. 3

Oil and Gas/Geothermal Program Inventories. 1979

NOTE: The original page containing a map/figure/record with specific locations of archaeological resources has been deleted from this report in order to protect the confidentiality of the site location. Qualified persons holding a valid Bureau of Land Management, Nevada, cultural resources special use permit with need to examine this information may contact the appropriate BLM field office for further information.



T. 33 N.  
T. 32 N.

D E S E R T



Areas intensively investigated  
for cultural resources.

Transects of intensive investigation in 10 meter wide corridors.

Map: U.S.G.S. Gerlach Nev. 15' 1964

Fig. 6. Overview of Gerlach and Great Boiling Springs looking SE from the Granite Range.

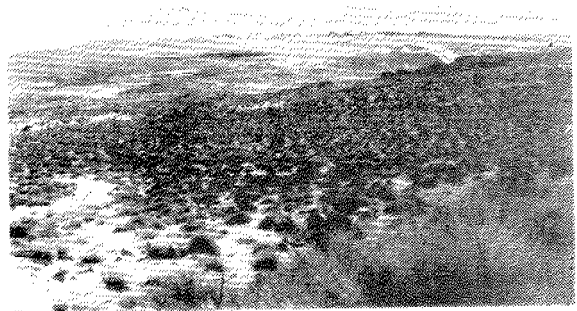


Fig. 7. East side of the Granite Range showing topographic and vegetation patterns in spring-seep area.



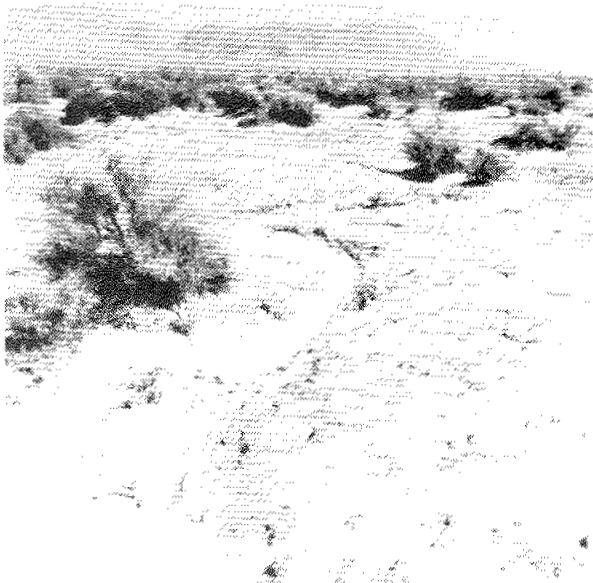


Fig. 8. Dry wash area showing stream path near Ar27-02-33 and Great Boiling Springs.

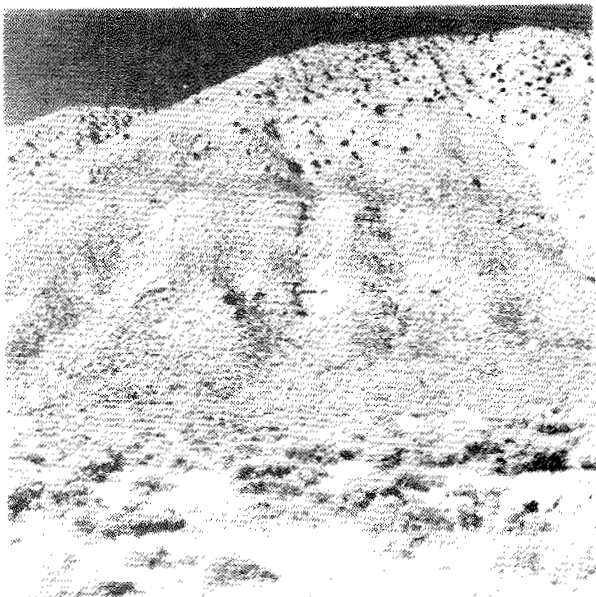


Fig. 9. East side of the Granite Range showing mountains, old lake terraces, and alluvial fans of the lower slopes.

Fig. 10. Sand dunes near Ar27-02-123.



Fig. 11. Ar27-02-31. Close-up of  
mano concentration at the site area



Fig. 6. Overview of Gerlach and Great Boiling Springs looking SE from the Granite Range.

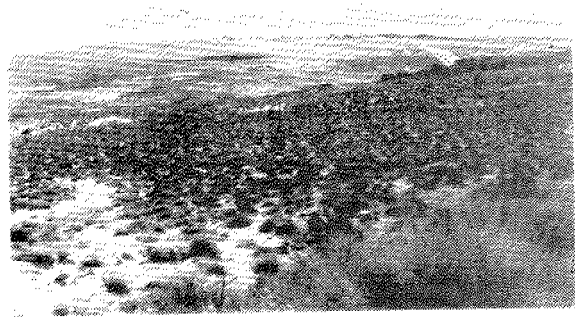
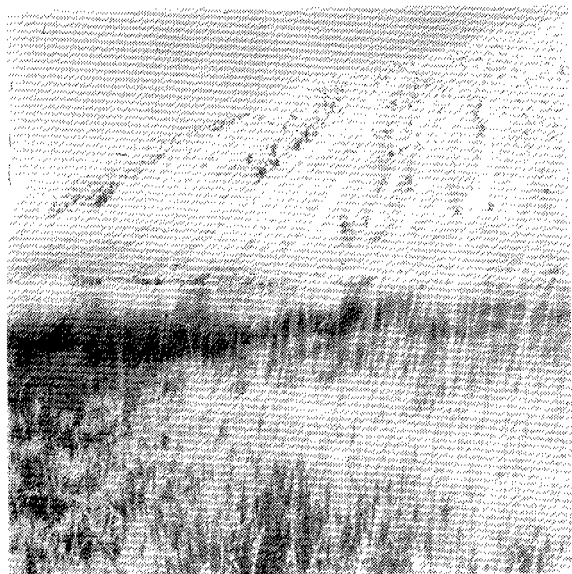


Fig. 7. East side of the Granite Range showing topographic and vegetation patterns in spring-seep area.





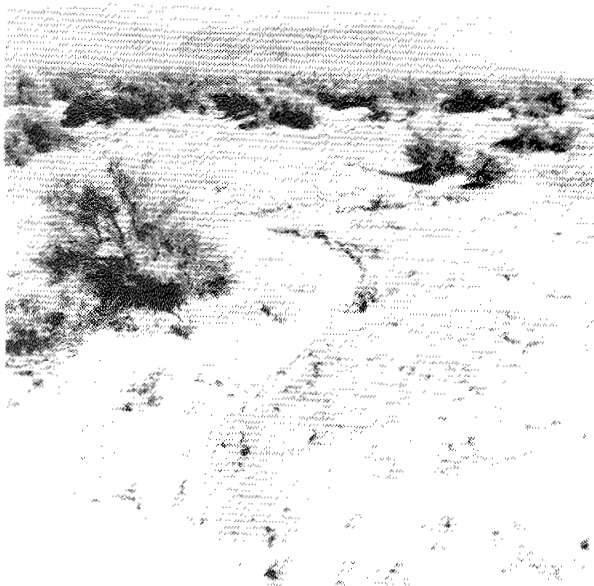


Fig. 8. Dry wash area showing stream path near Ar27-02-33 and Great Boiling Springs.

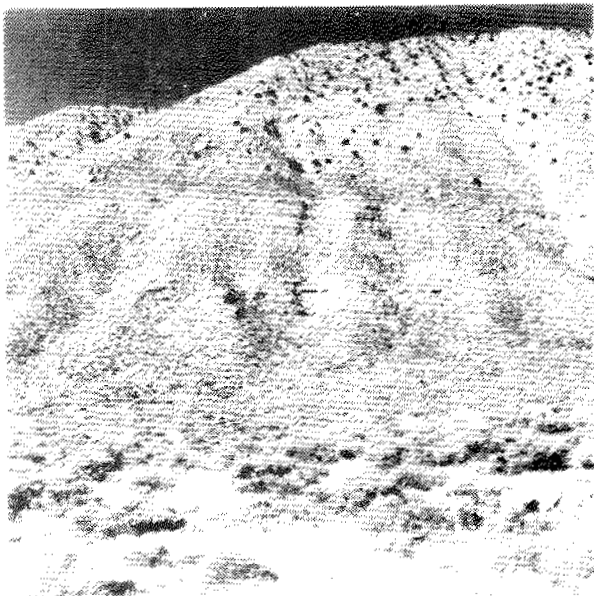


Fig. 9. East side of the Granite Range showing mountains, old lake terraces, and alluvial fans of the lower slopes.



**Fig. 12.** Hs27-02-2. Granite Creek Station overview looking NE. Arrow indicates stone foundations remaining.



**Fig. 13.** Hs27-02-2. Granite Creek Station. Close-up looking NE showing stone foundations.

Fig. 10. Sand dunes near Ar27-02-123.



Fig. 11. Ar27-02-31. Close-up of  
mano concentration at the site area





**Fig. 12.** Hs27-02-2. Granite Creek Station overview looking NE. Arrow indicates stone foundations remaining.



**Fig. 13.** Hs27-02-2. Granite Creek Station. Close-up looking NE showing stone foundations.

APPENDIX I

Site Reports

Copies of this report with site records are available at:

Nevada State Museum

Winnemucca District Office, Bureau of Land Management

APPENDIX II

Oil and Gas/Geothermal Lease Stipulations

Geothermal Energy Stipulations as Given in Instruction Memorandum No. NSO 75-40

The certified statement required by Section 18\* of the lease form must be completed by a qualified archaeologist, acceptable to the Authorized Officer.

\*Section 18 -- ANTIQUITIES AND OBJECTS OF HISTORIC VALUE -- The lessee shall immediately bring to the attention of the Authorized Officer any antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric ruins, fossils, or artifacts discovered as a result of operations under this lease, and shall leave such discoveries intact. Failure to comply with any of the terms and conditions imposed by the Authorized Officer with regard to the preservation of antiquities may constitute a violation of the Antiquities Act (16 U.S.C. 431-433). Prior to operations, the lessee shall furnish to the Authorized Officer a certified statement that either no archaeological values exist or that they may exist on the leased lands to the best of the lessee's knowledge and belief and that they might be impaired by geothermal operations. If the lessee furnishes a statement that archaeological values may exist where the land is to be disturbed or occupied, the lessee will engage a qualified archaeologist, acceptable to the Authorized Officer, to survey and salvage, in advance of any operation, such archaeological values on the lands involved. The responsibility for the cost of the certificate, survey, and salvage will be borne by the lessee, and such salvaged property shall remain the property of the lessor or the surface owner.

Oil and Gas Stipulations as Given in Instruction Memorandum No. NSO 75-40, Change 1

To secure specific compliance with the stipulations under Section 2, paragraph (q)(4)\*\* of the oil and gas lease form, the lessee shall, prior to operations, furnish to the Authorized Officer a certified statement that either no archaeological values exist or that they may exist on the leased lands to the best of the lessee's knowledge and belief and that they might be impaired by oil and gas operations. Such certified statement must be completed by a qualified archaeologist acceptable to the Authorized Officer.

If the lessee furnishes a statement that archaeological values may exist where the land is to be disturbed or occupied, the lessee will engage a qualified archaeologist, acceptable to the Authorized Officer, to survey and salvage, in advance of any operations, such archaeological values on the lands involved. The responsibility for the cost of the certificate, survey, and salvage will be borne by the lessee, and such salvaged property shall remain the property of the lessor or the surface owner.

\*\*Section 2, paragraph (q) - Protection of surface, natural resources, and improvements. "The lessee agrees to take such reasonable steps as may be needed to prevent operations on the leased lands from unnecessarily...  
(4) destroying, damaging or removing fossils, historic or prehistoric ruins, or artifacts...."

APPENDIX III

Inventory of Projectile Points



Inventory of Projectile Points

<u>Site Number</u>	<u>Location</u>	<u>Description</u>	<u>Type</u>	<u>Associations</u>
BLM Ar27-02-32 NSM 26Wa2250	Located on knoll-like area with alkali wash and meadow above.	Obsidian. Medium sized. Missing tip and broken base. Unweathered.	Unknown	Ar27-02-32 site; discoidal scraper/chopper at site.
BLM Ar27-02-124 NSM 26Wa2324	Located in a sand dune southeast of Godey's Rock.	Obsidian. Medium sized. Scottsbluff affinities with square shaped base that displays basal thinning. Unweathered.	Scottsbluff affinities 9000 B.C. to 6000 B.C.	Ar27-02-124 site; materials at site.
BLM Ar27-02-38 NSM 26Wa2255	Located on the lower slopes of Granite Range at southern foot of Granite Point.	Obsidian. Small retouched flake or broken crescent. Unweathered.	Great Basin Transverse Type II(?) Crescent 7000 B.C. to 5000 B.C.	Ar27-02-38 small site; obsidian knife at site
BLM Ar27-02-34 NSM 26Wa2251	Located on the side of a stream bed at the foot of Bowen Canyon.	Obsidian. Medium sized. Slightly concave base, missing basal tangs. Moderately wind exposed.	Humboldt series. (?) 4000 B.C. to 1000 B.C.	None
BLM Ar27-02-31 NSM 26Wa2249	Located in seepage area with associated sand duning northwest of Gerlach.	Obsidian. Large. Slightly convex base, also thinned. Relatively unweathered.	Elko series (?) 1500-500 B.C. to A.D. 500-600	Ar27-02-31 large site; lithic materials at site including ground stone.
BLM Ar27-02-110 NSM 26Wa2310	Located on low sand dune at base of Godey's Rock on the east side.	Obsidian. Small. Base only with sloping shoulders forming pointed base.	Pinto series(?) 3000 B.C. to 700 B.C.	None

<u>Site Number</u>	<u>Location</u>	<u>Description</u>	<u>Type</u>	<u>Association</u>
BLM Ar27-02-36 NSM 26Wa2253	Located on lower slopes of the Granite Range, near the foot of Granite Point.	Obsidian. Small. Leaf- shaped with sloping sides and a square, thinned base.	Cottonwood Leaf ● (?) to ca. A.D. 1300.	None
BLM Ar27-02-35 NSM 26Wa2252	Located on lower slope of Granite Range east of mouth of Bowen Canyon.	Chert. Very small. Tip missing.	Desert Side Notched. Sierra Type (?) A.D. 1500 to historic.	None

APPENDIX IV

Comments from the State Historic Preservation Officer  
and  
President's Advisory Council on Historic Preservation

6230  
(H-930.41)

Nevada State Office  
Room 3008 Federal Building  
300 Booth Street  
Reno, Nevada 89509

JAN 28 1976

Lewis S. Wall, Assistant Director  
Office of Review and Compliance  
President's Advisory Council on  
Historic Preservation  
P. O. Box 25085  
Denver, CO 80225

Dear Mr. Wall:

In compliance with Section 106 of the NHPA of 1966 and Section 2(b) of E.O. 11593, the following information is being transmitted for Advisory Council comment.

Geothermal development lease applications have been received for the KGRA area, including Bureau of Land Management lands, in the vicinity of Carlsbad, Nevada. A Cultural Resources Survey was completed for the area of proposed leasing. That report, submitted by the Nevada State Office, is enclosed.

In regards to various historical properties, none are at present listed on the National Register or eligibility list—through the monthly supplement of Tuesday, December 2, 1975. One historical property, Granite Creek Station (Camp McKee) was located on private lands within the proposed leasing area. This property may qualify as National Register eligible on historical grounds under 36 CFR 800.10(1) and 36 CFR 800.10(4).

In regards to archaeological properties, none are at present listed on the National Register or eligibility list—through monthly supplement of Tuesday, December 2, 1975. Two properties may qualify as National Register eligible districts on archaeological grounds under 36 CFR 800.10(4).

To insure that there will be "no adverse affect" to National Register properties, the Bureau of Land Management will delete from geothermal development and/or require "no surface occupancy" lease stipulations for the following areas:

- T. 32 S., R. 23 E. Section 16 - All national resource lands.  
Section 17 - All national resource lands.  
Section 20 - All national resource lands.  
Section 21, N-1/2 - All national resource lands.

T. 32 N., R. 23 E., Section 30, SW-1/4 - All national resource lands.  
Section 31, SW-1/4 - All national resource lands.

T. 32 N., R. 24 E., Section 25, SE-1/4 - All national resource lands.  
Section 36, NE-1/4 - All national resource lands.

T. 33 N., R. 23 E., Section 25, W-1/2 - All national resource lands.  
Section 26 - All national resource lands.  
(Granite Creek Station "buffer zone")

It is the Bureau of Land Management's opinion that implementation of the above recommendations, along with enforcement of oil and gas/geothermal lease stipulations, will ensure that we have taken no action which will adversely affect any National Register and/or National Register eligible properties.

We have contacted the Nevada State Historic Preservation Office and they will forward their comments to you.

Sincerely yours,

E. I. Rowland

E. I. Rowland  
State Director, Nevada

enclosure:1  
Gerlach CR Report

cc:  
BdFO w/enclosure  
Robert Garvey w/enclosure

Asott:mc 1/26/76

February 12, 1975

Mr. Lewis S. Hall, Assistant Director  
Office of Review and Compliance  
President's Advisory Council on  
Historic Preservation  
P. O. Box 25085  
Denver, Colorado 80225

Dear Mr. Hall:

Subject: CULTURAL RESOURCES SURVEY FOR OIL AND GAS/GEO-  
THERMAL LEASING IN THE VICINITY OF GERLACH NEVADA

We have completed review of the above named report and copy of a letter to you from Mr. E. L. Rowland, State Director, Bureau of Land Management regarding steps taken or that will be taken to protect and/or mitigate impacts upon cultural resources that occur within the area of the proposal.

We agree with the proposed lease stipulations outlined in the letter to protect cultural values known to exist within the area proposed; that is to delete from geothermal development and/or require "no surface occupancy" for the following areas known to contain properties which may qualify as eligible for the National Register.

- T 32 N, R 23 E, Section 15 - All national resource lands.  
Section 16 - All national resource lands.  
Section 20 - All national resource lands.  
Section 21, N 1/2 - All national resource lands.
- T 32 N, R 23 E, Section 30, SW 1/4 - All national resource lands.  
Section 31, NW 1/4 - All national resource lands.
- T 32 N, R 22 E, Section 25, SE 1/4 - All national resource lands.  
Section 36, NE 1/4 - All national resource lands.
- T 33 N, R 23 E, Section 25, W 1/2 - All national resource lands.  
Section 26 - All national resource lands.

*Handwritten notes:*  
2/18  
2/18  
2/19  
2/25  
2/25

61-1311

February 12, 1976  
Mr. Lewis S. Wall  
Page 2

We further concur that it is not necessary to delete those areas where no physical evidence remains of routes followed by historical trails through the area.

We feel that the implementation of the recommendations outlined above and the enforcement of standard lease stipulations which require the lessee to perform an intensive investigation of an area prior to surface disturbance, will suffice to identify unknown cultural resources and to arrange for mitigation of any impact upon them.

Sincerely,

Nolan F. Veil, Administrator  
(State Historic Preservation Officer)

NFK:MH:ba

✓ cc: Mr. E. I. Howland

Advisory Council  
On Historic Preservation

1522 K Street N.W.  
Washington, D.C. 20005

February 17, 1976

El 2/23  
B2/24  
2/17/76

Mr. E. I. Rowland  
State Director  
Nevada State Office  
Bureau of Land Management  
Room 3008 Federal Building  
300 Booth Street  
Reno, Nevada 89509

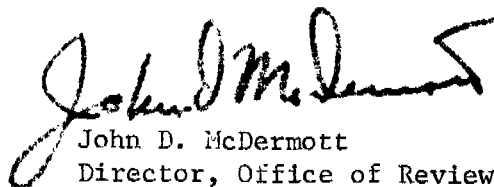
Dear Mr. Rowland:

On February 2, 1976 the Advisory Council received Bureau of Land Management's (BLM) determination that approval of geothermal development leases in the KGRA area, near Gerlach, Nevada would have no adverse effect on the Granite Creek Station, or two proposed archeological districts, all of which appear to be eligible for inclusion in the National Register of Historic Places. The Council staff has reviewed BLM's determination of no adverse effect and notes no objection to the determination.

In accordance with Section 800.4(d) this completes the process for compliance with the Advisory Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800). We would suggest, however, that pursuant to Section 2(a) of Executive Order 11593, "Protection and Enhancement of the Cultural Environment" issued May 13, 1971, that BLM institute the necessary measures to nominate the above referenced properties under its jurisdiction and control for inclusion in the National Register.

Your continued cooperation is appreciated.

Sincerely yours,

  
John D. McDermott  
Director, Office of Review  
and Compliance



CULTURAL RESOURCES REPORT

FOR

GEOTHERMAL LEASING

IN THE BLACK ROCK DESERT

EAST OF THE GRANITE RANGE

U. S. Department of the Interior  
Bureau of Land Management

Winnemucca District Office  
Sonoma-Gerlach Resource Area  
Buffalo Hills Planning Unit

Supplement to  
EAR No. 27-020-4-99

(This report contains sensitive data and should  
be distributed on a "need to know" basis.)

Submitted by:

Peggy McGuckian  
Archeologist  
Winnemucca District  
Winnemucca, Nevada

January 1978

CR Report Number: CR 2:209

Dates of Field Operations: November 30-December 1; December 6-7, 1977.

Archeologists: Peggy McGuckian, Regina Smith

Project: Black Rock Desert east of the Granite Range  
Geothermal Exploration Area

District Office: Winnemucca

Resource Area: Sonoma-Gerlach

Planning Unit: Buffalo Hills

State: Nevada

County: Pershing

Legal Description: T. 33 N., R. 24 E., Sec. 8, 9, 17, 18, and 19,  
T. 33 N., R. 23 E., Sec. 24.

Map Reference: U.S.G.S. 15' series, Gerlach Quadrangle;  
U.S.G.S. 250,000 series, Lovelock Quadrangle;  
Buffalo Hills Planning Unit Map.  
Aerial Photos: AMS August 19, 1953 series, #6419;  
GS-VDOS 7-4-74, #2-54 to 2-56.

### Introduction

Approximately 65 square miles of land are being considered for geothermal leasing in the Black Rock Desert area. This is the sixth in a series of reports (Brooks 1977a, b, c, & 1978a, b) covering the archeological reconnaissances of these potential lease areas. This report will cover the results of six sections surveyed in November and December of 1977 on the eastern slopes, foothills, and bordering playa region of the Granite Range.

### Research Objectives

The main purpose of this project was to locate National Register quality properties of large aerial extent (10 acres or more in size) which would be adversely affected by the proposed geothermal leasing. The existing lease stipulations were considered sufficient to insure mitigation of smaller sites. The location of both prehistoric and historical sites was sought. In the case of historic sites, physical evidence of the Nobles' Route was the main concern.

### Consultations/Existing Data Review

No National Register sites were listed within the survey area in the National Register of Historic Places (Federal Register Vol. 42, No. 210 and monthly supplements through Dec. 6, 1977). However, Thomas Hunt and the Committee for the Emigrant Trail National Historical Monument have submitted forms nominating the Applegate-Lassen Trail in northwestern Nevada to the National Register of Historic Places.

Archeological reconnaissances of several proposed geothermal lease areas in the Black Rock Desert vicinity have been conducted by BLM personnel: Botti, 1976; Brooks, 1977a; Brooks, 1977b; Brooks, 1977c; Brooks, 1978a; and Brooks, 1978b. These were reviewed as well as other relevant reports and literature listed in the bibliography.

One of the sections within the survey area (T. 33 N., R. 23 E., Sec. 24) was examined (Botti, 1976) but was resurveyed using the methodology adopted in this and previous reports by Brooks of evenly spaced paced transects in order that the data gathering would be as systematic as possible.

### Area and Environmental Setting

The survey area is located in the southwestern end of the Black Rock Desert, extending from the playa into the foothills and eastern slopes of the Granite Range. It is approximately five miles northeast of Gerlach, Nevada, and is accessible by Highway 34.

Four topographical/biotic zones can be distinguished within the survey area. The first is the playa zone, the dry lakebed of prehistoric Lake Lahontan. This is a barren mud flat composed of alkali silt-clay soils. Zone Two consists of silty-sand hummocks which are found along the shoreline of the prehistoric lake bed. Davis has hypothesized that similar hummocks in the Trego Hot Springs area developed "in response to wave erosion at the margin of the lakes which have occupied the playa during the Medithermal" (Davis, 1977, p. 11). These hummocks are topped by a sparse vegetation of greasewood and shadscale.

Zone Three includes the foothill region of the Granite Range. Primary vegetation is big sagebrush and cheatgrass. The soil is composed of brown sandy loam, decomposed granite, and basic igneous extrusive material.

Zone Four includes the lower and upper slopes of the Granite Range. The soil is brown sandy loam with decomposed granite and basic igneous extrusive material with granodiorite boulders and sparse limestone outcrops. Vegetation includes juniper, big sagebrush, rabbitbrush, and cheatgrass.

### Elevations

Elevations range from approximately 3,900 feet in the playa to an average 3,910 in the hummock region to 3,960 in the foothills and 5,200 on the upper slopes and peaks of the Granite Range.

### Water

Numerous ephemeral streams and intermittent Granite Creek flow nearby in Granite Range. This is a cold water spring at the head of Bowen Canyon some five miles to the west. Great Boiling Hot Springs lies approximately five miles to the south near Gerlach. Prehistoric Lake Lahontan covered the playa sections and marshland may have been present at various times during the fluctuations of this lake.

### Faunal Observations

Occasional jackrabbits and birds of unidentified species were observed; also the carcasses of several cows were found in the sand hummock area.

### Field Examination Techniques

The survey area was located through the use of U.S.G.S. topographic maps, the BLM Buffalo Hills Planning Unit Map, and aerial photos of the area. Master Title Plats and Survey Plats were consulted to determine exact acreage and relative position of each of the sections to be surveyed. All sections within the survey area lack cadastral survey, with the exception of Section 24, T. 33 N., R. 23 E. Consequently, the southwest section corner of Section 24 was located and the remaining corners established through the use of a Brunton compass, odometer readings, and pacing where terrain prohibited driving the required distances. Corners were flagged and the areas surveyed utilizing the stratified sampling strategy established by Brooks in previous archeological reconnaissances of the Black Rock Desert Geothermal Exploration Areas (Brooks, 1977b, p. 2). The survey area was divided into playa and non-playa areas, and a non-intensive survey consisting of a 5% sample of the playa area and a 10% sample of the non-playa areas was conducted.

Although Botti felt that "the playa areas were not conducive to habitation and therefore would yield relatively little material" (Botti, January 19, 1976, p. 3), Brooks has since located isolated artifacts and occasional sites in the playa area (Brooks, 1977b, p. 7). Therefore, the playa sections were considered to warrant examination. Visibility being much higher in the flat, unvegetated playa sections, however, it was felt that fewer transects would provide adequate coverage in these areas. Consequently, non-playa areas were surveyed in transects 200 meters apart (constituting eight transects in a regular 640 acre section) walked north and south in order to traverse the distinctive topographic and biotic zones. Distances between transects were paced as were the

transects themselves in order to provide as accurate locational data as possible for any artifacts or sites encountered. Direction was maintained with handheld (Silva Rangefinder) compasses. Rock outcrops, flat ridgetops, and other areas with high potential for providing shelter, water, vantage point, or necessary resources were also checked. Playa sections were covered in driven transects .2 miles apart (constituting four transects per 640 acre section).

When artifacts were found, the surrounding area was examined intensively to reveal any further evidence of aboriginal occupation and to establish site parameters.

No collections or subsurface tests were made. Projectile points and tools were sketched and identified using Thomas' projectile point key (Thomas, 1970) as modified by Elston and others (1977). All finds were recorded on BLM site forms and locations plotted on URA cultural resource overlays.

The above procedures were deemed adequate to locate any National Register quality sites of large aerial extent and to represent generally cultural material within the survey area.

#### Background

Lake Lahontan in prehistoric times was a "fluctuating lake that inundated a number of adjoining intermontane basins, mainly in western Nevada, to form the largest pluvial lake in the western Great Basin" (Morrison and Frye, 1965:4). The Black Rock Desert is a portion of this prehistoric lakebed. Morrison and Frye (1965) have postulated a series of fluctuating lake levels for Lake Lahontan based on Antevs' climatic scheme--basically higher lake levels during the Anathermal, lower levels during the hotter and dryer Altithermal, and a series of higher levels with alternating periods of dessication during the Medithermal. Two deep lake levels have been suggested by Morrison and Frye, the first dating from 75,000 to 35,000 years ago and the second 25,000 to 8,000 years ago with an intervening period of dessication. A series of at least six lake cycles documented by lake sediments, known as the Seho formation, may have been associated with this second deep lake period. The last two of these lake cycles correlate with Antevs' Anathermal and the period during which man, by artifactual evidence, entered the Great Basin.

During periods of high lake levels broad shallow marshes may have been produced and evidence of lakeshore habitation by Indian populations has been recorded. Bedwell (1970) has postulated a Western Pluvial Lakes Tradition (9000 BC to ca. 6000 BC), a period of lake, marsh, and grassland-oriented exploitation. For the High Rock country to the north of the survey area, Layton has postulated a Parman phase characterized by

stemmed projectile points probably dating to the late Anathermal during a time when he suggests marshland in the Black Rock was drying up and occupation shifted to higher more reliable lake basin in order to exploit similar marshland resources (Layton, 1970:187).

Brooks has oriented previous archeological investigations of the Black Rock Desert area towards the question of site location and has posed three hypotheses: (1) Sites are predominantly associated with marshland habitat manifested in higher occurrence of sites along ancient lakeshores; (2) Sites are associated with local water sources demonstrated by higher site density around springs and seeps; (3) Sites are associated with both lakeshore and local water sources representing exploitation of marshland when available and local water source exploitation during low lake levels.

Generally, Brooks' finds have supported local water source exploitation during the Medithermal though Davis (1977) has suggested that at least some of the springs and seeps that sites have been found in association with may be lakeshore features. A thorough mapping of lakeshores would be necessary to determine the full significance of Brooks' findings.

The survey area was crossed by two portions of the Emigrant Trail known as the Noble's Route. The first trail was the original cutoff from the Applegate-Lassen Trail which went from Black Rock Hot Springs to Granite Creek Station. Use of this route was initiated in 1852 by William Nobles. The latter cutoff went from the hot springs at Trego to Granite Creek Station.

Earlier, in 1844, John C. Fremont passed through the southern end of the survey area enroute to Great Boiling Springs at Gerlach from Razorback Mountain near Trego.

### Findings

A total of five isolated finds were recorded in the six sections surveyed. No sites of any size were found and four of the six sections had no cultural material whatsoever. One projectile point and one flake were found in the hummock region. One projectile point and one possible knife tip were located on the surface of the playa as was one possible wagon rim fragment. Findings for each section are as follows:

#### T. 33 N., R. 23 E.

##### Section 24:

Historical:Negative  
Prehistorical:Negative

#### T. 33 N., R. 24 E.

##### Section 8:

Historical:Negative  
Prehistorical:Positive

CR NV-02-1142 is a heavily weathered obsidian knife or projectile point tip found on the surface of the playa approximately 200 meters east of the sand hummocks marking the playa edge. The base of this artifact is broken off and its type is, consequently, unidentifiable. No collection was made.

CR NV-02-1143 is a white chert projectile point which is broken into two parts lying less than two meters apart found in the sand hummock area to the west of the playa edge. The point is probably of the Eastgate Expanding Stem type.

Section 9:

Historical:Negative

Prehistorical:Negative

Section 17:

Historical:Negative

Prehistorical:Negative

Section 18:

Historical:Positive

CR NV-02-1145 is one slightly curved piece of rusted iron found on the surface of the playa. Artifact was found in close proximity to the route of the old Noble's wagon road to Honey Lake and may be a portion of a wagon rim. Not collected.

Prehistorical:Positive

CR NV-02-1141 is one obsidian projectile point, somewhat weathered, of probable Elko type, but possibly of the Rose Spring series. Tip and one ear are missing. Point was found in the poorly defined bed of a road in the playa approximately 200 meters east and south of sand hummocks.

CR NV-02-1144 is an isolated find of one obsidian flake located in a wash between sand hummocks 500 meters north of playa edge and 1/4 mile south of Highway 34.

Section 19:

Historical:Negative

Prehistorical:Negative

### Archeological Conclusions

In the area presently under consideration, no sites of any size, indicating intensive seasonal or permanent exploitation of lacustrine resources, were located. Though the survey area included desirable campsites in the form of juniper sheltered granite outcrops and with excellent vantage of the playa and vicinity and at least one rockshelter on the slopes of the Granite Range, no evidence of aboriginal use of these areas was found.

The paucity of tools may be partially explained by the fact that the Black Rock Desert is a popular arrow hunting area. The proximity of the survey area to Gerlach, Highway 34, and the hard-packed desert roads which transect some of the sections suggest the possibility that projectile points and other readily identifiable tools have been removed by collectors, though it is highly unlikely that whole sites have been removed.

Cultural material was restricted to isolated finds in the hummock region at the margin of the playa and the playa surface itself. One heavily weathered probable knife tip, one obsidian flake, and one projectile point of Eastgate Expanding Stem type were found in the hummock region and one weathered broken projectile point of probable Elko type was found on the surface of the playa. Hester and Heizer (1973, p.8) report radiocarbon dates for the Eastgate series ranging from 600-700 A.D. to 1100 A.D., though Layton (1970, p. 236) suggests a fluorescence of 300 B.C. or earlier based on obsidian hydration dating of Eastgate points found at Hanging Rockshelter in Nevada. Hester and Heizer (1973, p.6) suggest a time span for Elko points between 2000 B.C. and 1080 A.D. Both points date to the Medithermal period.

The isolated finds recorded in this survey probably represent isolated instances of lakeshore hunting during the Medithermal. The weathered surface on the projectile point found on the playa is probably due to longshore drift during periods of standing water and wave action (Brooks, BLM CR:138, p. 7).

These findings give credence to Brooks' hypothesis that Medithermal exploitation of the Black Rock Desert area took the form of local water source rather than lacustrine resource exploitation. The absence of springs, seeps, and local water sources within the survey area may explain the absence of extensive sites. It is likely that the hot springs to the south and springs to the east of the survey area offered preferable resources and exploitation centered around these.

The survey area is merely a small section of the Black Rock Desert region and the data gathered will be meaningful only when considered with further gathering of archeological information and paleoenvironmental studies of the area in the future.



### National Register Recommendations

No archeological sites of National Register caliber were observed during the course of this survey. Portions of the Nobles Route emigrant trail pass through the survey area. Though no physical traces of the trail (with the exception of a possible wagon rim fragment) were identified, emigrant journalists descriptions of the route make it easily plotable. The route of John C. Fremont's 1843-44 exploration party can also be determined accurately from his notes. A BLM report on emigrant trails in the Black Rock Desert Area by McGuckian will be released in the near future. Final decisions on the visual intrusion of geothermal development on the historic integrity of emigrant trails in the Black Rock Desert are pending on a visual resource analysis to be completed as soon as weather conditions permit.

### Summary and Mitigation Recommendations

On the basis of physical evidence, leasing with no special stipulations is recommended for these sections. However, final action should be suspended until visual resource evaluations of possible effects on Applegate-Lassen Trail have been completed. Other properties which may be encountered will be mitigated under lease stipulations. The lessee is still obligated under the lease to perform an intensive investigation of the area prior to surface disturbance. This study in no way relieves the lessee of his obligations.

Note: "This Cultural Resources Investigation has been conducted in accordance with techniques described which are considered to have been adequate for evaluating any Cultural Resources that could be affected by this project. However, if during the course of any project activities that may be authorized subsequent to the submission of this report notable Cultural Resources should be discovered, care shall be exercised so as not to disturb such resources and the Winnemucca District Manager shall be informed immediately."

### CR Inventory Acreage

Extensive: 41,88 acres

### Time Expenditure

Field: 80 hours  
Office: 120 hours  
TOTAL 200 hours

Submitted by:

Peggy McGuckian  
Peggy McGuckian  
Archeologist

March 21, 1978  
Date

# Bibliography

- Bedwell, S. F. 1970. Prehistory and Environment of the Pluvial Fort Rock Lake Area of South Central Oregon, Doctoral Dissertation, Department of Anthropology, University of Oregon, Eugene.
- Botti, Nancy J. 1976. Cultural Resources Survey for Oil and Gas/ Geothermal Leasing in the Vicinity of Gerlach, Nevada. BLM Report 2-32(P). Reno, Nevada.
- Brooks, Danny P. 1977a. Cultural Resources Survey for Geothermal Leasing South of Gerlach, Nevada. BLM Report 2-123(P). Winnemucca, Nevada.
- Brooks, Danny P. 1977b. Cultural Resources Survey for Geothermal Leasing in the Southern Black Rock Desert. BLM Report 2-138(P). Winnemucca, Nevada.
- Brooks, Danny P. 1977c. Cultural Resources Survey for Geothermal Leasing in the Trego Hot Springs Area. BLM Report 2-171(P). Winnemucca, Nevada.
- Brooks, Danny P. 1978a. Cultural Resources Survey for Geothermal Lease Applications N-9867, N-12233, and N-98666. BLM Report 2-202(P). Winnemucca, Nevada.
- Brooks, Danny P. 1978b. Cultural Resources Survey for Geothermal Leasing in the Vicinity of Black Rock Point. BLM Report 2-206(P). Winnemucca, Nevada.
- Clewlow, William C. 1968. "Surface Archeology of the Black Rock Desert." UCAS-R 73:1-94.
- Davis, Jonathan O. n.d. Geology of 26PE118, Pershing County, Nevada. Manuscript on file, Nevada Archeological Survey, Reno, Nevada.
- Davis, Jonathan O. November 16, 1977. Letter to Chester Conard concerning Brooks' Trego Hot Springs Geothermal Lease Area Cultural Resource Report. BLM, Winnemucca, Nevada.
- Davis, Jonathan O. and Robert Elston 1972. "New Stratigraphic Evidence of Late Quaternary Climatic Change in Northwestern Nevada", Great Basin Cultural Ecology: A Symposium, ed. Don D. Fowler. Desert Research Institute Publications in the Social Sciences, No. 8, Reno and Las Vegas, Nevada.
- Elston, Robert, Jonathan O. Davis, Alan Leventhal, and Cameron Covington. 1977. "The Archeology of the Tahoe Beach of the Truckee River." Manuscript of file at the Northern Division of the Nevada Archeological Survey, University of Nevada, Reno.

- Hester, Thomas R. and Robert F. Heizer 1973. Review and Discussion of Great Basin Projectile Points: Forms and Chronology. Archeological Research Facility, Department of Anthropology, University of California, Berkeley.
- Layton, Thomas N. 1971. High Rock Archeology. An interpretation of the Prehistory of the Northwestern Great Basin. Unpublished Ph. D. dissertation, Department of Anthropology, Harvard University, Cambridge, MA.
- McGuckian, Peggy Emigrant Trails in the Black Rock Desert. Manuscript in preparation. BLM, Winnemucca District, Winnemucca, Nevada.
- Morrison, Roger B. 1964. Lake Lahontan: Geology of Southern Carson Desert, Nevada. Geological Survey Professional Paper No. 401, Washington, D.C.
- Morrison, Roger B. and J. C. Frye 1965. Correlation of the Middle and Lake Quaternary Successions of the Lake Lahontan, Lake Bonneville, Rocky Mountain (Wasatch Range), Southern Great Plains, and Eastern Midwest Areas, Nevada Bureau of Mines, Report 9. University of Nevada, Reno.
- Thomas, David H. 1970. Archeology's Operational Imperative: Great Basin Projectile Points as a Test Case. University of California Archeological Survey Annual Report, pp. 31-60.
- Weide, Margaret L. 1968. Cultural Ecology of Lakeside Adaptation in the Western Great Basin. Unpublished Ph. D. dissertation, Department of Anthropology, University of California, Los Angeles.

Bureau of Land Management, Nevada  
Contributions to the Study of Cultural Resources  
Technical Report No. 3

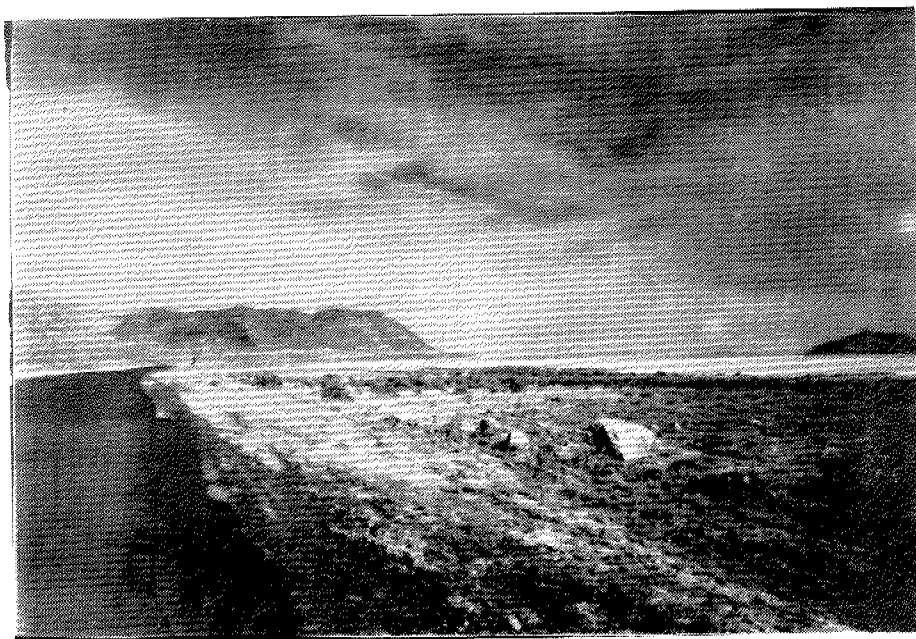
Oil and Gas/Geothermal Program Inventories. 1979

NOTE: The original page containing a map/figure/record with specific locations of archaeological resources has been deleted from this report in order to protect the confidentiality of the site location. Qualified persons holding a valid Bureau of Land Management, Nevada, cultural resources special use permit with need to examine this information may contact the appropriate BLM field office for further information.

Bureau of Land Management, Nevada  
Contributions to the Study of Cultural Resources  
Technical Report No. 3

Oil and Gas/Geothermal Program Inventories. 1979

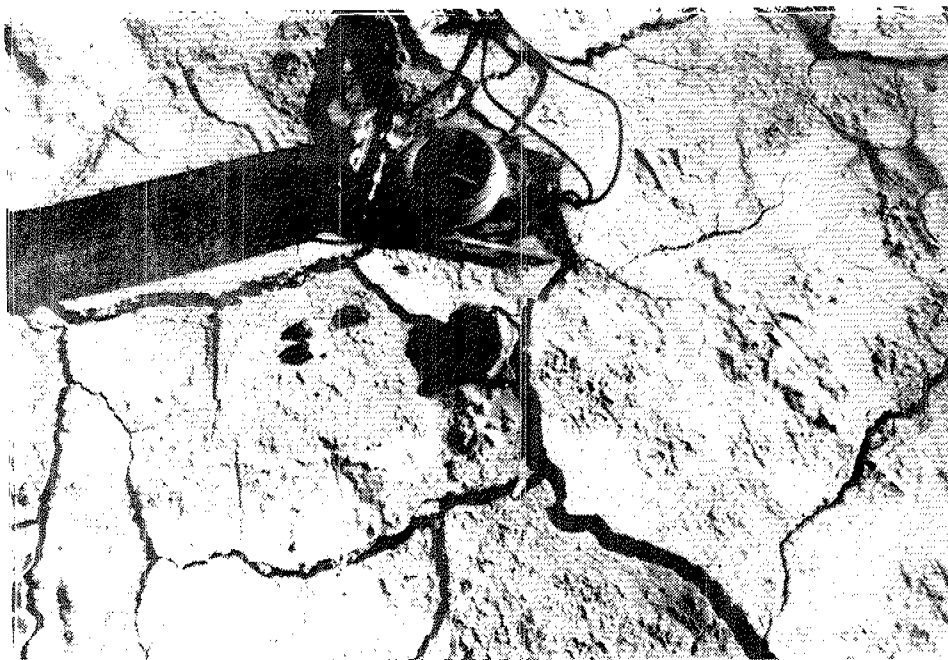
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Overview of survey area looking northeast from Highway 34..



Survey area showing playa, sand hummocks, foothills and slopes of the Granite Range looking east.



Possible knife tip found on surface of playa  
(CR NV-02-1142)

CULTURAL RESOURCES SURVEY FOR HUMBOLDT HOUSE

GEOHERMAL LEASE APPLICATION N-8711

U. S. Department of the Interior  
Bureau of Land Management

PERSHING COUNTY, NEVADA  
WINNEMUCCA DISTRICT OFFICE  
SONOMA-GERLACH RESOURCE AREA  
SONOMA PLANNING UNIT

by ROBERT YORK, CULTURAL MANAGEMENT SPECIALIST/ARCHEOLOGIST  
NEVADA STATE OFFICE, RENO  
AUGUST 1977

(This report contains sensitive data and should be  
distributed on a "need to know" basis.)



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## CULTURAL RESOURCES SURVEY REPORT

Project: Humboldt House Geothermal Leases. Specifically, for Non-Competitive Geothermal Resources Lease Application N-8711.

Dates of Field Operations: Nov. 2, 3, 9-11, 1976.

Surveyed by: Robert York, NSO Archaeologist.

Administrative Data:

Pershing County, Nevada; Sonoma Planning Unit; Sonoma-Gerlach Resource Area; Winnemucca (02) District Office.

Legal Description: T. 31 N, R. 33 E, Sec. 4 and T. 32 N, R. 33 E, Sec. 28 & 34. See maps 1-4.

Map Reference: USGS Imlay, Nev. 15', 1956 & USGS Rye Patch Res. South, Nev. 7.5', 1971,

Management & Research Objectives:

Management. BLM proposes to lease rights to geothermal resources on the public lands located in the referenced sections. This study was completed to assess any possible conflicts with the historic Humboldt House site and to identify other possible archaeological & historical sites for which mitigation of adverse impacts after leasing might be difficult; i.e. sites of relatively large aerial extent (over 10 acres).

Research. Since data would be gathered in a systematic manner across differing geologic & biotic zones of the Humboldt River drainage, it was assumed that this study could make a small contribution toward resolution of questions posed by Mary Rusco for the Humboldt River (1976). Specifically, in areas of chronology and aboriginal subsistence-settlement pattern.

Consultations/Existing Data Review: No properties currently listed in the National Register of Historic Places lie within the potential impact area. Two historic sites (non-aboriginal) and one archaeological District (aboriginal), considered possibly eligible for National Register listing are found within the general area: Humboldt House, Humboldt City, and the Rye Patch Archaeological District (Locality).

A check of site files at the Nevada State Museum, Carson City, showed no recorded sites within the actual areas to be surveyed. But, did show a small archaeological site (NSM: 26Pe75) in T. 32 N, R. 33 E, \*Sec. 33, associated with an abandoned sulphur mine, itself of historic interest. And, another archaeological site (NSM: 26Pe58) at the entrance of Humboldt Canyon, T. 32 N, R. 33 E, Sec. 35.

Don Tuohy, Archeologist with the Nevada State Museum, completed a survey for the Nevada Northern Natural Gas Pipeline in 1962. This survey was restricted to a narrow corridor, but since it bisects the subject lands it is of interest. Only one site, 26Pe75 (see above), was recorded for this area (Tuohy, 1963).

Mary Rusco, also an archaeologist with the Nevada State Museum, completed an extensive survey for the Bureau of Reclamation of Rye Patch Reservoir in 1976-77. None of the subject geothermal lease lands were included within the Rusco survey but due to close proximity this survey is of interest. Rusco reported the presence of numerous important archeological sites along the Rye Patch shoreline, which led to the submission of a National Register nomination for the Rye Patch Archeological District (Rusco, et al. 1977).

John Roney, Archaeologist with the Winnemucca DO of the BLM, completed a survey in the S1/2 of Sec. 34, T. 32 N, R. 33 E, in January, 1976, in regards to the use of that area by the Bureau of Reclamation for a materials pit. One historic site (BLM: Hs27-02-05), a trash area associated with Humboldt House, was recorded during that survey. No archaeological properties were observed (Roney, 1976).

Dan Brooks, archaeologist with the Winnemucca District Office of the BLM, completed a Class II survey for geothermal leasing in sections 20 & 28, T. 31 N, R. 33 E. and section 12, T. 31 N., R. 33 E. These lands lie to the south of the Humboldt House area, along Rye Patch Reservoir. Results are of interest not only because of physical proximity but because most of the environmental zones covered by myself were also covered by Brooks (Brooks, 1977).

In regards to the historical resources of this area, notably the California Emigrant Trail, Humboldt House, and Humboldt City, various published references were utilized; Goodwin, 1966; Mordy & McCaughey, 1968; and Paher, 1970. Information given on Nevada Historic Marker No. 23 "Humboldt House," and from local informants living at Humboldt Siding - L. H. Martin & his son-in-law Mayrle D. Astle (lease lands & siding buildings from Southern Pacific RR) and Mrs. Campbell (owns Campbell ranch & lands mostly NW of Humboldt Siding), was as well invaluable. The contributions of Martin & Campbell were of particular interest as they have both been here most of the 20th century, and had a great deal of knowledge to impart on Humboldt House and the general vicinity.

\* Site files at the NSM originally indicated this site to be located in T. 31 N, R 33 E, Section 4. Subsequent field checking showed this to be in error and location information at the NSM was accordingly corrected.

Area & Environmental Setting: The project area is located on the west side of the Humboldt Range, at the northern end of that range. Rye Patch & Lower Pitt-Taylor Reservoirs on the Humboldt River form the western boundary of the survey area.

Taken together the three sections surveyed form a sampling X-section through most of the geographical zones defined for the Humboldt River drainage; from the mud flats of Lower Pitt-Taylor Reservoir through the rocky upper alluvial fans and pediments of the Humboldt Range. A brief description of the micro-environments, or environmental strata, observed in each section follows. For a fuller treatment of the environmental variables present in this general area refer to the Rye Patch Survey Report (Rusco, et al., 1977).

T. 31 N, R. 33 E, Sec. 4. At least three micro-environments can be defined in this section.

Area 1 is described as all of the terrain below the 4200' contour marked by an eroded landscape of low dunes and dry swales. This area lies within Davis's "Sand Sheet" (Rusco, et al, 1977, pp. 18-26). Substrates are primarily composed of clays, silts, and sands, brownish to off-white in coloration. Larger grained materials in the form of volcanic gravels are intermixed with the fine-grained sediments in some areas. Should note that a very sparse amount of obsidian in the form of small nodules occur in these gravels. Obsidian nodules in fact occur in all the strata to be defined here, but only in very limited quantities never reaching even the small density described for areas on the western side of Rye Patch Reservoir (Rusco, et al. 1977, p. 37; Brooks, 1977). Water erosion is mostly in the form of sheetwash, very little stream channelization and downcutting. Most erosion is from wind action. No live surface water is present, but water apparently does collect and stand for short periods of time in the swales -- as indicated by mud cracks. Sediments are interpreted as lacustrine in origin layed down by periodic advances of Pleistocene Lake Lahontan (J. Davis, personal communication). Bits of shell (clam?) are observed throughout the zone. Vegetation is a disturbed Salt Desert Shrub pattern. Cover ranges from 0 to 10%. Plants noted include, Shadscale, Horsebrush, greasewood, rabbitbrush, Spiny Hopsage, and rye grass (exclusively associated with dunes). Also, noted one man-made seep to the north side of the Pitt-Taylor Dam road. This seep-spring was created by recent (last 20 years) geothermal exploration activities, it is marked by a growth of Tamarask (Salt Cedar), rye and salt grasses.

Area 2 is defined as the lower margin of the alluvial fan from the 5200' contour to the 4250' contour. The 4200' contour is a distinct escarpment interpreted as a former Pleistocene Lake Lahontan terrace. It is capped by moderately rounded volcanic cobbles and gravels. The gravels are often cemented together by tuffa, and tuffa chunks are found throughout. Again bits of shell are found mixed in the deposits. The area behind the 4200' "beach" is marked by a relatively flat terrain of alluvial substrates composed of mixed volcanic-granitic gravels, sands and silts. Again, sheetwash is the rule with limited channelization and downcutting. Vegetation is still classified as a disturbed Salt Desert Shrub pattern. Cover is usually less than 10%. Plants observed include, Shadscale, Horsebrush, greasewood, budsage, halogeton and Russian

Thistle (disturbed areas of RR tracks, pipeline, Compressor Station, etc.), this zone has been highly disturbed by the RR tracks, pipeline & compressor station, as noted.

Area 3 is defined as that area of the alluvial fan above the 4250' contour. The big difference between this area and Area 2 is that the slope angle becomes much steeper, although still gentle, and substrates become markedly rockier and materials are poorly sorted; grading from boulder size through brownish alluvial sites. The 4250' contour is as well a noticeable escarpment, but not as pronounced as the 4200' contour. It is more likely a tectonic feature rather than lacustrine or riverine. This assumption made on the casual observation that materials are angular here and shell appears to be lacking, additionally personal communication with J. Davis indicates that Lahontan should have never reached this level in the Rye Patch area. However, this assumption needs further review. Generally, Area 3 can be described as an outwash plain, featuring a landscape of jumbled volcanic boulders and gravels; many indications of recent sheet flooding from late summer and Fall thundershowers can be seen. This description is especially applicable to the terrain east of I-80. However, the fan is dissected by definite, and often deeply incised, arroyos. To the west side of I-80 this same description applies, but in this area it is not quite as pronounced as the slope is somewhat gentler and there is much evidence for more disturbance by heavy equipment - associated with highway and RR constructions. The vegetation pattern can probably be classified as a mixed Salt Desert to Northern Desert Shrub. However, as with most of the areas in this survey, it is a disturbed pattern. Most of the plants noted for Area 2 are also found here. Of special interest is a definite increase in the occurrence of Artemisia T., to such an extent that it is the dominate plant for this particular area. Disturbance plants, Russian Thistle & Halogeton, are also prevalent.

T. 32 N, R. 33 E, Sec. 28. Two micro-environments for CR sampling purposes were defined for this section. To facilitate comparisons, area numbers will be the same as those previously used when the area substantially falls within the same definitional parameters.

Area 1 is substantially the same stratum as described for this area in Section 4. Over 60% of the section lies within this stratum. Certain differences, however, should be noted. This area is not as "blown out". Rather than pronounced swales, it is more of a mud flats area with dunes. Livestock disturbance is prevalent in the form of trails and pronounced rabbitbrush growth. On the whole, vegetation is much denser than for this area in Section 4, and more mixed, featuring Artemisia T. Rabbitbrush, Rye grass, and Salt grass and Tamarask at the ends of drainage channels where they empty into Pitt-Taylor Reservoir. Horsebrush, Saltbush, Greasewood, and Russian Thistle

are also prevalent. The Section is substantially disturbed by an alfalfa field that takes up much of this stratum. The western border of this stratum is defined as the shoreline of Lower Pitt-Taylor Reservoir, pretty much paralleling the 4150' contour. The shoreline is marked by substantial clay bluffs, interpreted as erosional features of Pitt-Taylor Reservoir capped by high, semi-stabilized, brownish sand dunes.

Area 4 is the alkaline mud flats of Lower Pitt-Taylor Reservoir. This stratum was available for assessment as the Reservoir was dry. As one would expect this terrain is virtually featureless, flat, and void of vegetation. Whitish to gray coloration. Davis believes that these flats are huge blow-out features and that this was never a part of the Humboldt River floodplain. This theory, is still open to question.

T. 32 N, R. 33, Sec. 34. This section lies entirely within the Area 3 stratum (exclusive of Humboldt House) as previously defined for Sec. 4. Briefly, it is an area much disturbed by materials pits, I-80, The RR at Humboldt House siding, trash dumps, mineral exploration, etc. What little remains in a natural state can be described as an Alluvial fan marked by an extremely rocky surface and substrate of unsorted volcanic materials (rhyolites, fine-grained basalts, some small pebbles of obsidian and large amounts of quartz). Area is dissected by sometimes wide and deeply incised dry stream channels; one channel emanating from Humboldt Canyon did show a small surface flow toward Humboldt House, this is probably from pipeline leakage rather than indicative of a perennial stream. Area, as was noted for Section 4, also showed many indications of recent sheet flooding. Vegetation was again a mixed Salt & Northern Desert Shrub pattern. Usually dominant was shadscale with a very sparse understory of unidentified annuals and grasses - some cheat grass. Usually less than 15% cover. Channels are marked by growths of Artemisia T. & Rabbitbrush.

Field Examination Techniques: To accomplish stated objectives (page 1) a stratified sampling procedure was adopted patterned after procedures used for the Gerlach Survey (Botti, 1975). Basically this called for utilization of loop type, walk-over, transects that would cover approximately 10% of the lands and cross very defined environmental stratum, and of paramount importance, organized to detect the presence of all CR's of large aerial extent, i.e. these covering better than 10 acres. Located cadastral survey corners, notable features, and compass bearings were used to ensure reasonable locational accuracy. Transects were walked-out in a zig-zag manner to ensure maximum coverage. Approximate routes of transects are plotted on maps 1 and 3.

This procedure was only deviated from in the case of the Pitt-Taylor mud flats (environmental area 4). Transects were extended onto the flats, but possibly not to the extents that might be dictated by "pure" probability sampling techniques. Primarily the reason for this deviation was that the thick homogenous alluvial deposition has been accumulated in the last 60 years making it highly likely that any archeological or historical materials would be deeply buried and concomitantly unlikely that such materials could be discerned through a surface survey.

When cultural materials were encountered they became the focus of a wider search to determine site size and significance. No formal sub-surface tests were completed, but animal burrows, stream and road cuts were examined for sub-surface cultural indicators. All observed cultural properties were recorded on Nevada BLM inventory forms, except as noted.

For Nevada BLM Inventory purposes, these techniques constitute a Class II assessment of these sections.

It should be noted, that this survey was primarily restricted to public lands, but some private lands were included in especially Section 28, with the permission of Mrs. Campbell. This was thought necessary to ensure as little violation of the research strategy as possible, and also to acquire essential comparative data.

Findings. The following positive results will be given by section and the environmental area. Only a few brief remarks on these cultural resources will be given here; the reader is referred to the individual site records on file with the Nevada State Museum in Carson City and the Winnemucca District Office of the BLM for more specific information.

For the most part no cultural materials were collected, exceptions will be noted. The few materials that were collected have been deposited with the Nevada State Museum.

T. 31 N, R. 33 E, Sec. 4. Environmental Area 1.

- CrNV-02-389 (NSM: 26Pe576). Aboriginal and possibly a non-aboriginal usage area. This site consists of a very light and discontinuous scatter of exclusively chipped lithic debitage, nearly all obsidian. Materials are usually found at the bases of low dunes located at the edges of swales and along rivulets. Points shown in plate 10, field identified as Eastgates, were found in these circumstances. Much of the debitage consisted of primary obsidian decortication flakes. Site appears to have been used primarily in a transient manner, probably in connection with limited H. & G. potentials and for use as a lithic workshop-quarry. Even though decortication flakes exist and a few obsidian nodules occur here, the scarcity of these materials does not seem to indicate any great reliance on this area for its quarrying potentials by peoples who were, in all probability, permanently encamped along the Humboldt River (Rye Patch Reservoir).

Non-aboriginal materials were noted in the form of rusted metals and badly weathered wood planks. Again, an extremely light scatter of these materials. There just might be a connection to the emigrant trail, but this was not possible to demonstrate. Even if this is the case, it does not appear to make this an important emigrant trail site (See CrNV-02-408 site record). No emigrant trail or wagon road traces were observed in section 4.

- CrNV-02-390 (NSM: 26Pe577). This site consisted of a solitary, obsidian, fragmentary, point. Field identified as either a Eastgate or Rose Spring. Specimen was collected.

T. 32 N, R. 33 E, Sec. 28. Environmental Area 1.

- CrNV-02-391 (NSM: 26Pe578). Aboriginal usage area of possibly great age as might be indicated by the presence of a Humboldt Concave Base A point (see Plate 15). Humboldt A points sometimes date to as early as 5000 years ago. Of course, trying to date a site from the occurrence of one typeable point is a questionable practice at best.

This site covers a very large area (see map 4) and consists of many localities associated with the dunes along the 4150-4160' contours. It is somewhat similar in look to site 02-389, in that it is associated with sand dunes and swales and in prevalence of obsidian debitage. However, debitage appears more abundant (although still sparse - this may be attributable to burial by the dunes?), and have greater variety -- secondary and tertiary flakes as well as primary decortication flakes. Additionally, fragments of ground stone and possible fire-cracked rocks were observed -- but, no more than 2 or 3 specimens noted.

This site appears to indicate at least semi-permanent occupancy to exploit the fauna and flora resources of a former wetlands biota. On the little data gathered in this survey it is hard to place in Rusco's site classification system (1977, pp 92-94); but probably fits the idea of "seasonal" or "transient" camps.

It is also interesting to note, that if my identification of the above point as a Humboldt Concave Base A is confirmed, it is a possibly earlier and a somewhat different style of point than was found in the Rye Patch Inventory. The earliest types of points identified in that survey are Humboldt Concave Base B's (Rusco, et al. pp. 52-53). Even though the specimen was not collected, its size, 5.5 cm in length and an est. 2.5 cm in width, seems to indicate that its weight must be in the neighborhood of 5 grams placing it well within the weight and size range of an A series and far exceeding the size and weight range of a Humboldt B point (Hatoff & Thomas, 1976, pp 286-301).

Of further interest is the observation that materials appeared to be almost exclusively associated with dunes back from the wave cut bluffs of the Pitt-Taylor Reservoir shore. That is, virtually no materials were observed in the dune cuts along the shore, rather materials were exposed along dunes further away from the shore, more closely associated with the 4160' contour than 4150'. This appears to be a somewhat different situation than was observed by Rusco, et al. for the Rye Patch Survey (1977).

- CrNV-02-408 (NSM: 26Pe580). Humboldt House. The Humboldt House site proper does not extend into this section, but a large trash area with materials that appear to date from the Humboldt House period, along with much recent refuse, is present. Plus the Campbell Ranch buildings are here as well. See map 4. The Humboldt House site will be discussed below.



T. 32 N, R. 33 E, Sec. 34. (Environmental area not applicable)

- CrNV-02-408 (NSM: 26Pe580). Humboldt House. The Humboldt House site was briefly a railhead for the Central Pacific in 1868. Freight roads servicing nearby mining towns and camps emanated from Humboldt House. Its chief claim to fame lay in a fabulous hotel that serviced the Central Pacific in the late 1860's to the early 1900's. No visible remains of the hotel exist today. Of course, the possibility that buried foundations exist cannot be overlooked, and controlled excavations might prove rewarding. There is a schoolhouse still standing that dates from this era, it is now being used as a storage shed (see photo plates 3 and 4).

In regards to its supposed association with the emigrant trail, I could find no information to support that it ever was a stop on the trail. See site record 02-408 for further clarification of this point.

- Hs27-02-05 (NSM: 26Pe469). This site consists of a pumphouse, corral and trash area associated with Humboldt House. It really should be considered a part of the Humboldt House site (02-408). Simply recorded as a separate site because the highway cuts it off from Humboldt House and does show significant activities of a later date than the activities at Humboldt House -- Pumphouse not built until 1930's.

This site was originally recorded under this number by John Roney (1976). I, however, did file an amended site record to add the pumphouse and corral to the Roney site record.

T. 32 N, R. 33 E, Sec. 34. Environmental Area 3.

- CrNV-02-388 (NSM: 26Pe575). This site is somewhat enigmatic. It consists of piled-up boulders of native materials (grano-diorite?) in a roughly rectangular configuration. It gives the appearance of a small fortification. The only associated artifact, either white or aboriginal, was the basal portion of a Eastgate type projectile point. I suspect, however, that the configuration is fortuitous and that the site is associated with 20th century minerals assessment work -- thus its name "Fort Bogus."

The point is probably the most significant discovery, but should properly be viewed as an isolated find; in all likelihood not really associated with the rock alignments. See site record 02-388 for further clarification.

The single point was collected and deposited with the Nevada State Museum.

#### General Findings.

- NSM: 26Pe75 (no BLM number assigned). As previously noted this site was recorded by D. Tuohy in 1962 (Tuohy, 1963). It apparently consisted of chipped lithic debitage associated with an abandoned sulphur mine (see Map 4). I could not locate any archaeological materials so I presume that it was collected by D. Tuohy? It might be of interest to compare these materials (probably available at the Nevada State Museum) against other materials in the area, as this is the only site recorded for what I have defined as Environmental Area 2.

The sulphur mine was abandoned in the 1930's, according to Mrs. Campbell. Tunnels, shoring, an ore cart RR grade, and other remains document this activity. Looks to be in good condition and may be of historic significance? Since this site is on private lands, Campbell property, beyond the scope of my survey, and would in no ascertainable way be affected by proposed BLM geothermal leasing, I did not record or pursue further background research.

- NSM: 26Pe58 (no BLM number assigned). This site was originally recorded for the University of California, Berkeley by Heizer and Elsasser in 1955. A copy of the site record is on file with the Nevada State Museum. It is apparently a small, recent, aboriginal camp located in Humboldt Canyon, (see Map 2). Conversations with Mrs. Campbell indicated that Indians were encamped in Humboldt Canyon in historic times, possibly into the early 20th century. I made a casual foray into the canyon, but did not relocate this site. Again, as this area was beyond the scope of the survey and would not be affected by proposed BLM geothermal leasing, I did not pursue the matter further.
- CrNv-02-394 (NSM: 26Pe579). This is the site of Humboldt City or Humboldt Canyon. It was a fairly substantial mining town from the 1860's to 1880's. Many ruins in fair condition remain and I have suggested that it be evaluated for National Register nomination. A wagon road connected this town to the railroad at Humboldt House. Also, a pipeline was constructed in the 1860's to deliver water to Humboldt House from Humboldt Canyon. Although in all likelihood original materials have been completely replaced, this line still serves the same purpose today. As none of these values would be affected by proposed geothermal leasing, no further investigation, except for the completion of a site record, was undertaken.
- California Emigrant Trails & Wagon Roads. Various wagon roads and a portion of the California Emigrant Trail passed along the Eastern side of the Humboldt River in the area of Humboldt House. However, I could find no physical traces of these routes, probably they are now dirt roads - such as the road leading to Poker Brown X-ing - and have consequently lost any historical integrity.

One of the reasons for conducting this survey was to establish if Humboldt House was an important site on the Trail. For the following reasons, it appears that Humboldt House was never an important point on the Emigrant Trail:

- (a) Knowledgeable authorities on the Emigrant Trail for this area (Thomas Hunt, Vic Goodwin and others) agree that the main trail ran on the western side of the Humboldt River (present Rye Patch Reservoir). Mrs. Campbell remembers going across river to collect pioneer relics from the trail and had no knowledge of the trail having run on the eastern side in the vicinity of Humboldt House.

- (b) There is no record of anything connected with the Emigrant Trail being located at Humboldt House, it is simply on the wrong side of the river and there is no apparent attraction for emigrants, such as water or livestock feed. Water apparently did not exist here until the 1860's when it was piped from Humboldt Canyon for the RR. Feed was more available in the meadows to the western side of the river.
- (c) It does appear that the trail on the eastern side did receive some usage, but only light and very sporadically -- such as the Mormon trek of 1849 back to the Salt Lake Valley. As noted no traces of the trail or later wagon roads could be identified. There is a remote possibility that historic materials found at site 02-389 may be associated with the trail, but this sheds no light on the usage of Humboldt House prior to the Railroad in 1868.
- (d) Finally, as I could find no record of use prior to the RR in 1868, it appears that it simply did not exist until 1868. In other words, it is an artificial site created by the RR due to its proximity to water in Humboldt Canyon and made a convenient shipping point for the mining camps and towns in the area. In any event, its big claim to fame was the RR hotel of the late 19th century, and this is where its historical significance lies.

Remarks and Research Directions: Such a limited survey cannot on its own contribute greatly to our understanding of human usage in the Great Basin or on a smaller scale even the Humboldt River drainage. However, when integrated into a regional research strategy (Rusco, 1976 and Rusco, et al. 1977) it becomes a significant piece in a complex jig-saw puzzle.

In regards to chronology and settlement patterns, this survey adds more uplands data for the Rye Patch Area. The Humboldt House survey indicates that at least for the eastern side of the river aboriginal usage of the alluvial fan, above 4250', is virtually non-existent. The finding of one isolated point at "Fort Bogus" only reinforces this impression. This verifies the findings of John Roney (1976) and Dan Brooks (1977). As obsidian nodules occur in the dry washes of the fan, it is presumed that sources may exist at the top where most areas of the fans meet the mountains, and possibly substantial lithic workshops-quarries may be present? As this area has not been included in any previous surveys, this possibility remains to be evaluated.

In the low areas in the vicinity of Rye Patch and Lower Pitt-Taylor Reservoirs, sites recorded appear to conform to patterns observed by Rusco (1977). But, as noted previously, there are some observations made at site 02-391 that are of interest and may indicate some lines for future inquiry. Such as, sites along Pitt-Taylor may date to a earlier time than sites recorded along Rye Patch, this needs to be tested. And, maybe of greater importance, to what water resource(s)

were the Pitt-Taylor sites associated? A retreating Lake Lahontan? An ancestral floodplain and channel of the Humboldt River? Or, something else? In any event, a better understanding of the geology and archaeology of the Pitt-Taylor Reservoirs appears crucial to any future research carried-out at Rye Patch Reservoir. And, accordingly a survey and sub-surface testing program should be completed for the Pitt-Taylor Reservoirs before drawing any conclusions concerning the chronology and aboriginal settlement patterns for the Rye Patch Area.

National Register Recommendations: All of the aboriginal sites located can be considered National Register eligible under 36 CFR 800.10 criteria for data reasons. Humboldt House and associated values also appear to only qualify under this criteria. Of all the Cultural Resources identified, only Humboldt Canyon may qualify under other criteria, but this value will in no way be affected by geothermal leasing, either primarily or secondarily.

Mitigating Measures: It is recommended that any previous recommendations made in regards to geothermal leasing, relative to cultural resources be changed in favor of the following:

T. 31 N, R. 33 E, Sec. 4 - This section should be open to leasing under standard cultural resources stipulations.

T. 32 N, R. 33 E, Sec. 28 - All public lands in the E1/2 of the SW1/4 should be withdrawn from leasing or be leased under "no surface occupancy". This is necessary to protect sensitive values at the primary locality of site 02-391.

- All other public lands in this section should be open to geothermal leasing under standard cultural resources stipulations.

T. 32 N, R. 33 E, Sec. 34 - All public lands in this section should be open to geothermal leasing with requirements for further CR surveys by professional archaeologists, prior to surface disturbing activities, waived. All other CR stipulations would remain in effect.

Reason: This section can be considered 100% assessed, given environmental homogeneity and the fact that two independent surveys of the section, York, 1977 and Roney, 1976, have varified that the public lands are devoid of any significant cultural resources. To insist upon further professional surveys appears unreasonable.

Implementation of the above mitigating measures should ensure that geothermal leasing will have no adverse affect upon identified or, any as yet unidentified, cultural resources.

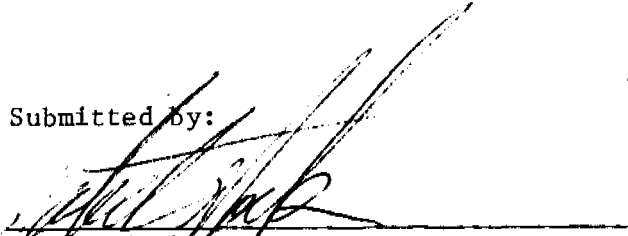
CR Inventory Acreage:

Class II (Extensive Survey) -- 1840 acres  
Class III (Intensive Survey) -- 180 acres (less than 10%)

Time Expenditure:

Field: 40 hours (5 working days)  
Office & Lab: 48 hours (6 working days)  
TOTAL: 88 hours (11 working days)

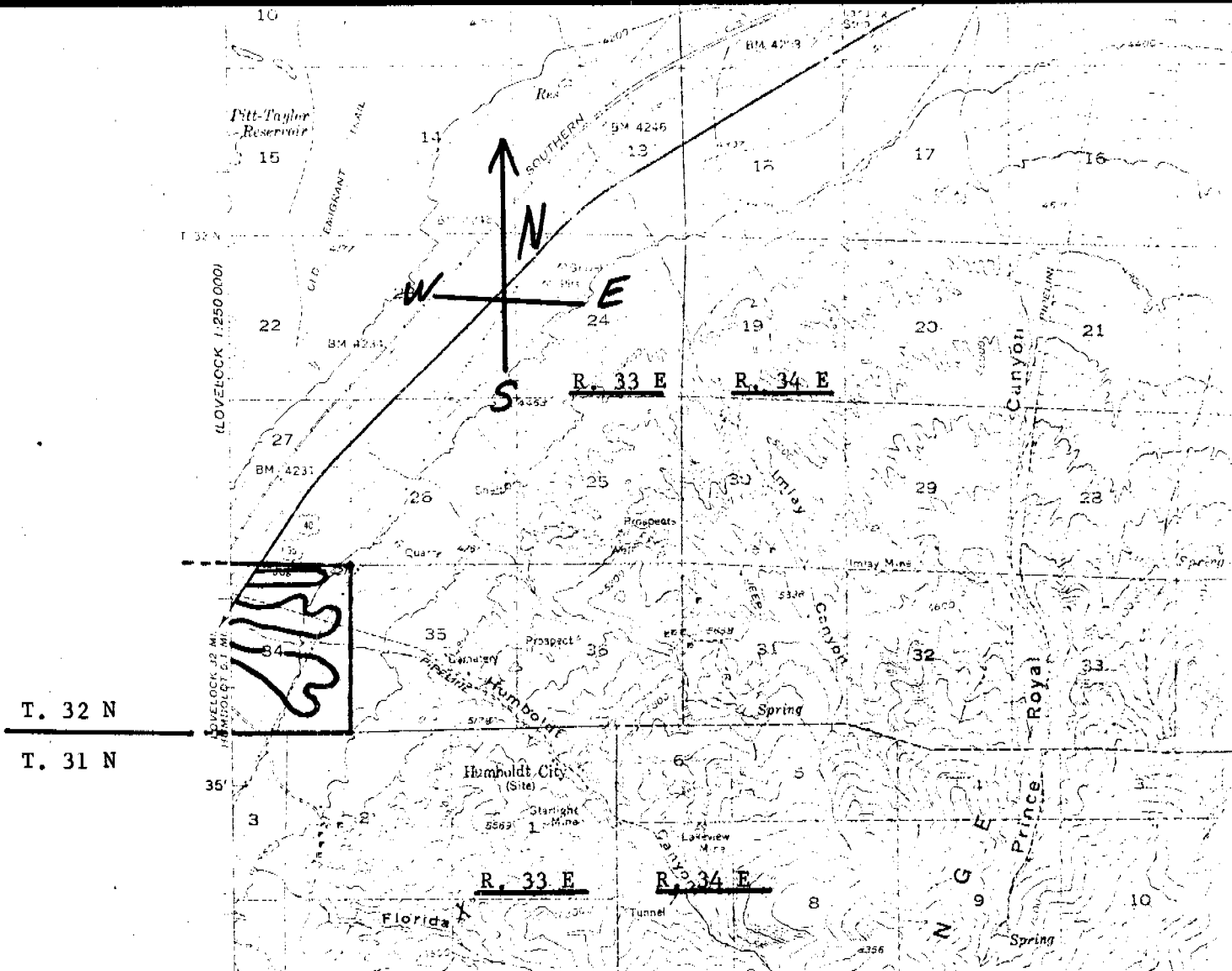
Submitted by:

  
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BLM, Nevada State Office  
Reno

  
Date

# REFERENCES CITED

- Botti, Nancy J.  
1975 Cultural Resources Report, BLM 2-32(P). Cultural Resources Survey for Oil and Gas/Geothermal Leasing in the Vicinity of Gerlach, Nevada. Bureau of Land Management, Nevada State Office.
- Brooks, Dan  
1977 Cultural Resources Report, BLM 2-158(P). Cultural Resources Survey for Geothermal Leasing Near Rye Patch Reservoir. Bureau of Land Management, Nevada State Office.
- Goodwin, Victor O.  
1966 The Humboldt Nevada's Desert River and Thoroughfare of the American West. USDA - Nevada Humboldt River Basin Survey, Reno. Limited Edition.
- Hatoff, Brian W. and David Hurst Thomas  
1976 Mateo's Ridge Site. In, Prehistoric Pinon Ecotone Settlements Of The Upper Reese River Valley, Central Nevada. Vol. 53: Part 3 Anthropological Papers of The American Museum of Natural History. New York.
- Hunt, Thomas  
1974 Ghost Trails To California. American West Publishing Co., Palo Alto.
- Mordy, Brooke and Donald McCaughey  
1968 Nevada Historical Sites. University of Nevada System, Desert Research Institute. Reno. Limited Edition.
- Paher, Stanley W.  
1970 Nevada Ghost Towns and Mining Camps. Howell-North Books. Berkeley.
- Roney, John  
1976 Cultural Resources Report, BLM 2-51(P). Cultural Resources Survey for Bureau of Reclamation Free Use Permit. Bureau of Land Management, Nevada State Office.
- Rusco, Mary  
1976 Humboldt River Archaeological Project: A Preliminary Research Design. Ms. on file with Nevada State Museum, Carson City.
- Rusco, Mary, J. Davis, Andy Jensen, and Evelyn Seelinger  
1977 Archaeological Investigations At The Rye Patch Reservoir. Bureau of Reclamation Contract 14-06-200-8364 A. Ms. on file with Nevada State Museum, Carson City.
- Tuohy, Donald R.  
1963 Archaeological Survey In Southwestern Idaho And Northern Nevada. Nevada State Museum Anthropological Papers No. 8. Carson City.



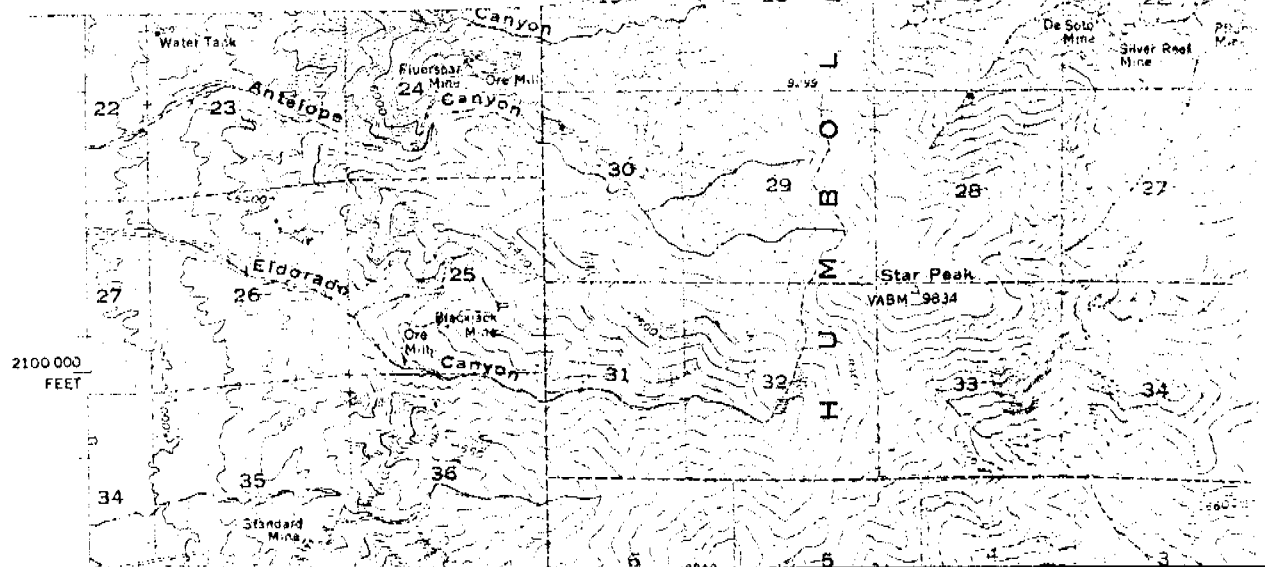
Map 1. USGS Imlay, Nev. 15' 1956  
CR Report: BLM 2-103(P)

Legend:



= Survey area.

= Appx. routes of walk-over, loop type, transects.



Bureau of Land Management, Nevada  
Contributions to the Study of Cultural Resources  
Technical Report No. 3

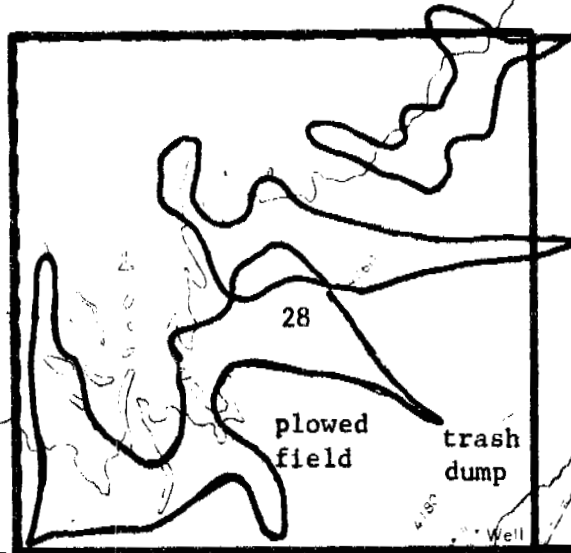
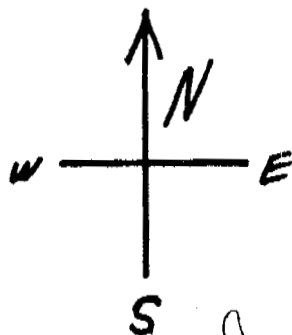
Oil and Gas/Geothermal Program Inventories. 1979

NOTE: The original page containing a map/figure/record with specific locations of archaeological resources has been deleted from this report in order to protect the confidentiality of the site location. Qualified persons holding a valid Bureau of Land Management, Nevada, cultural resources special use permit with need to examine this information may contact the appropriate BLM field office for further information.



LOWER PITT-TAYLOR RESERVOIR

ELEVATION 4147



Map 3. USGS Rye Patch Res. South, Nev. 7.5', 1971  
CR Report: BLM 2-103(P)

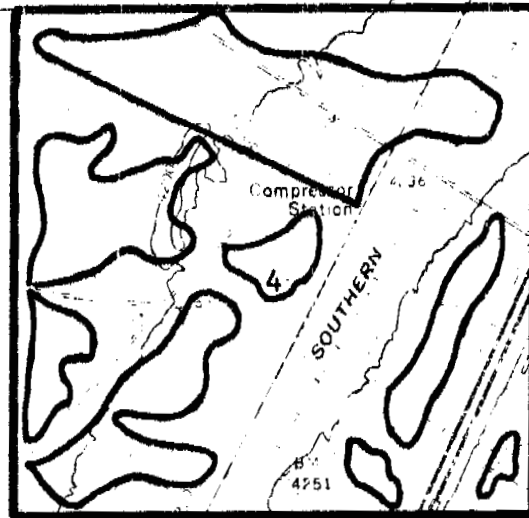
Legend:



= Survey area.



= Appx. routes of walk-over, loop type, transects.



Humboldt House  
(BM 4235)

Rest Area

213000 FEET

trash dump

HUMBOLDT INTERCHANGE

PACIFIC

T. 32 N  
T. 31 N

BM 4258

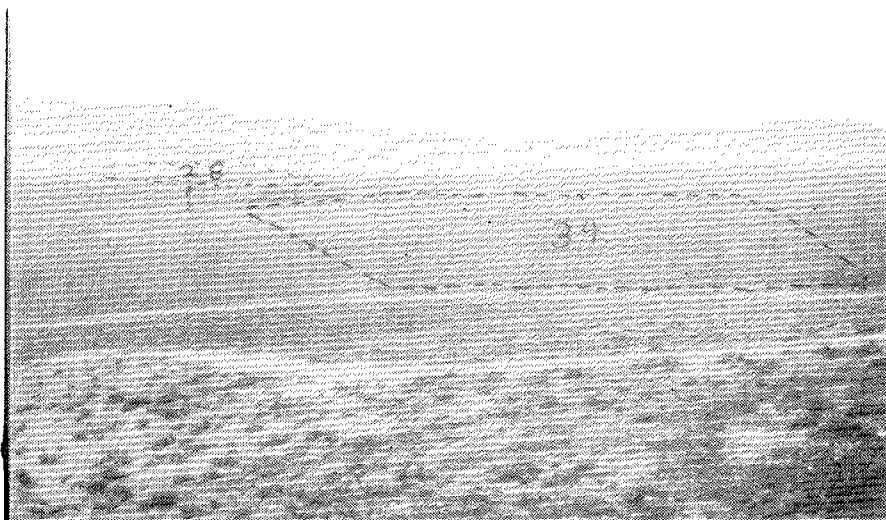
T. 32 N  
T. 31 N

R. 33 E

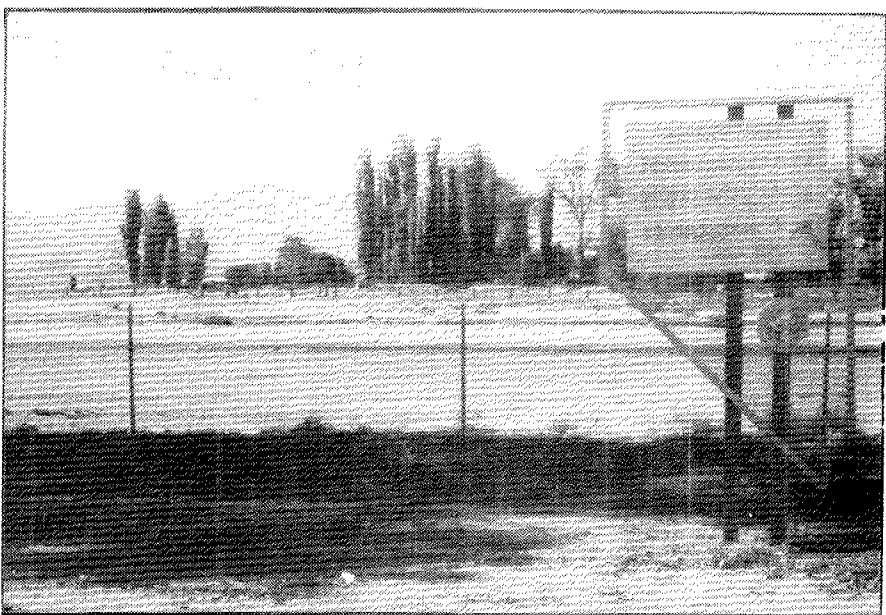
Bureau of Land Management, Nevada  
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Technical Report No. 3

Oil and Gas/Geothermal Program Inventories. 1979

NOTE: The original page containing a map/figure/record with specific locations of archaeological resources has been deleted from this report in order to protect the confidentiality of the site location. Qualified persons holding a valid Bureau of Land Management, Nevada, cultural resources special use permit with need to examine this information may contact the appropriate BLM field office for further information.



Looking NW across sections 28 & 34 to  
Humboldt House & Pitt-Taylor Reservoir.  
Dashed lines are appx. survey arcs.



CrNV-02-408 - Humboldt House. Looking  
W. across I-80 to Humboldt Siding -  
Humboldt House site.



Plate 3. CrNV-02-408 - Humboldt House.  
Site of Humboldt House hotel, no surface  
remains.



Plate 4. CrNV-02-408 - Humboldt House.  
Schoolhouse ruins.

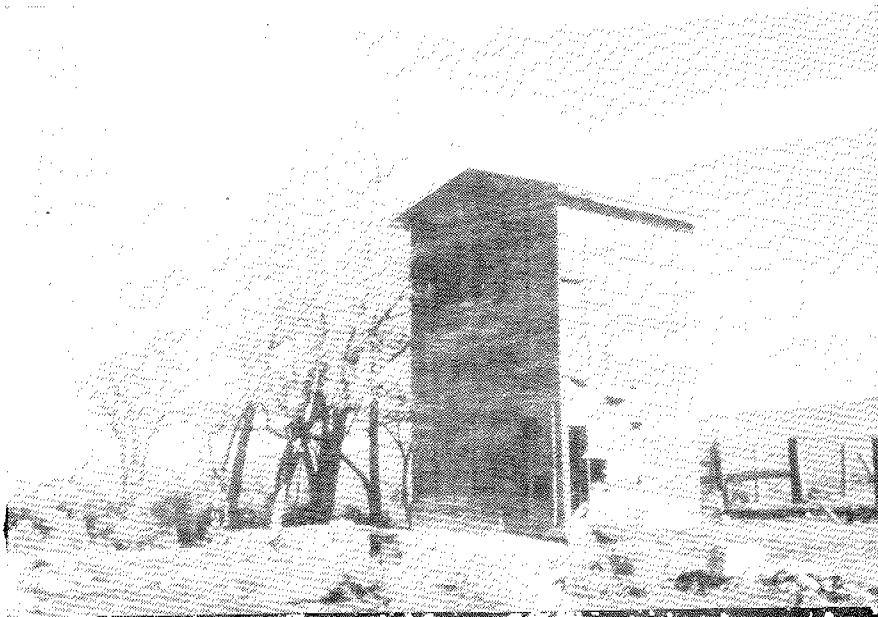


Plate 5. Hs27-02-05 - Humboldt House  
Pumphouse & Trash Site. Pumphouse &  
corral.



Plate 6. Hs27-02-05 - Looking NE across  
historic trash area to pumphouse &  
Humboldt House area.



Plate 7. CrNV-02-388 - "Fort Bogus"  
Rock alignments of undetermined origin  
& function. Probable mining related?

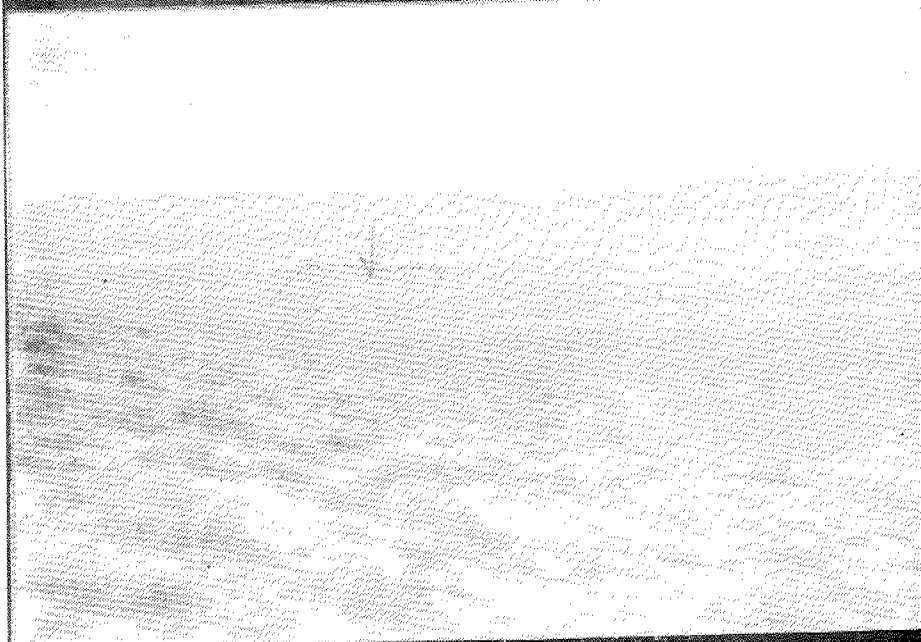


Plate 8. Looking W-SW to compressor sta.  
(arrow) & section 4 survey area - appx.  
boundary indicated by dashed line.





Plate 9. CrNV-02-389. Site overview, looking SW. Arrow indicates position of point bases shown in Plate 10.

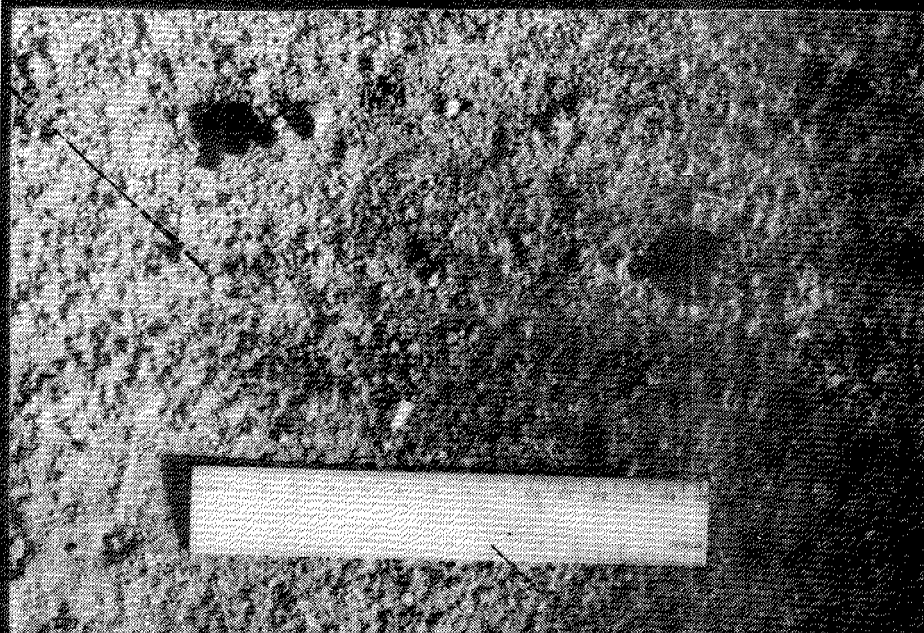


Plate 10. CrNV-02-389. In situ point bases - probably Eastgate series. Not collected.

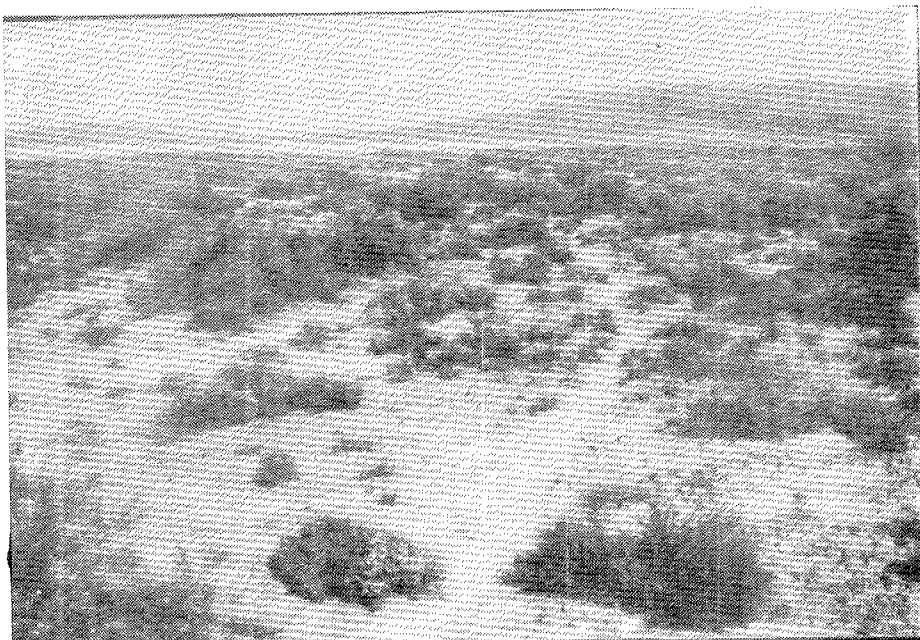


Plate 11. Section 28, eastern  $\frac{1}{2}$  of section, terrain & veg. overview. Looking NW to Pitt-Taylor Reservoir (dry).



Plate 12. Section 28, western  $\frac{1}{2}$  of section, looking SW along Pitt-Taylor Reservoir shoreline.



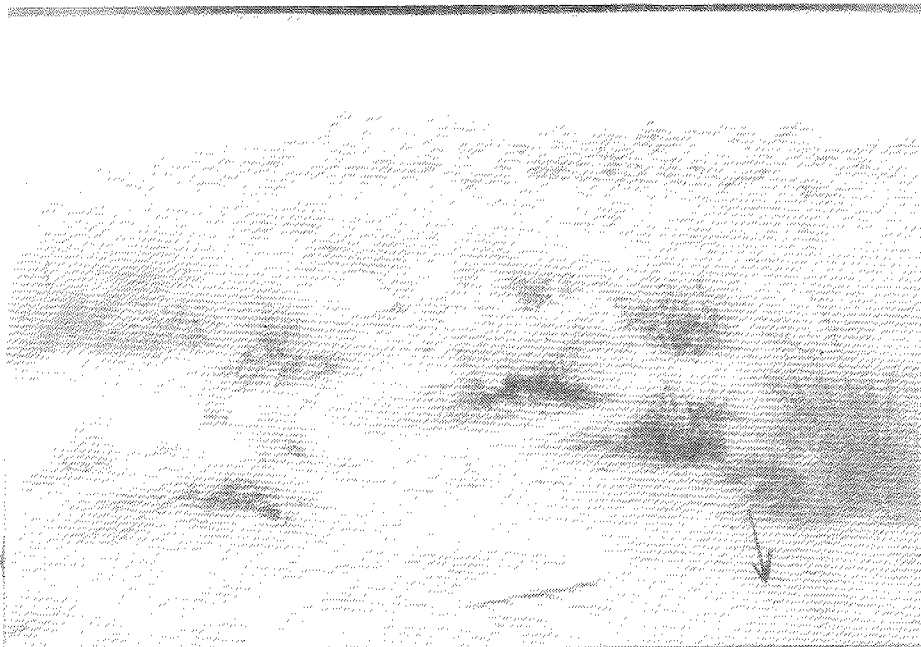


Plate 13. CrNV-02-391. Illustrates dunes & flats terrain typical of this site. Looking SE to Humboldt Range. Arrow indicates position of large obsidian flake shown in Plate 14.

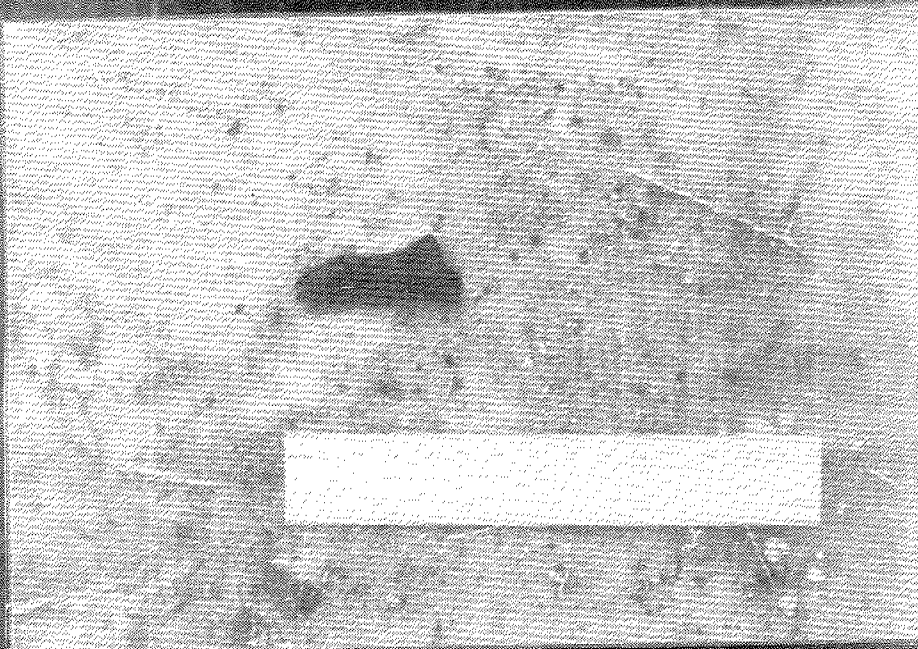


Plate 14. CrNV-02-391. In situ large obsidian or welded tuff flake.



Plate 15. CrNV-02-391. In situ point-  
obsidian or welded tuff? Probably  
Humboldt Concave Base A type.

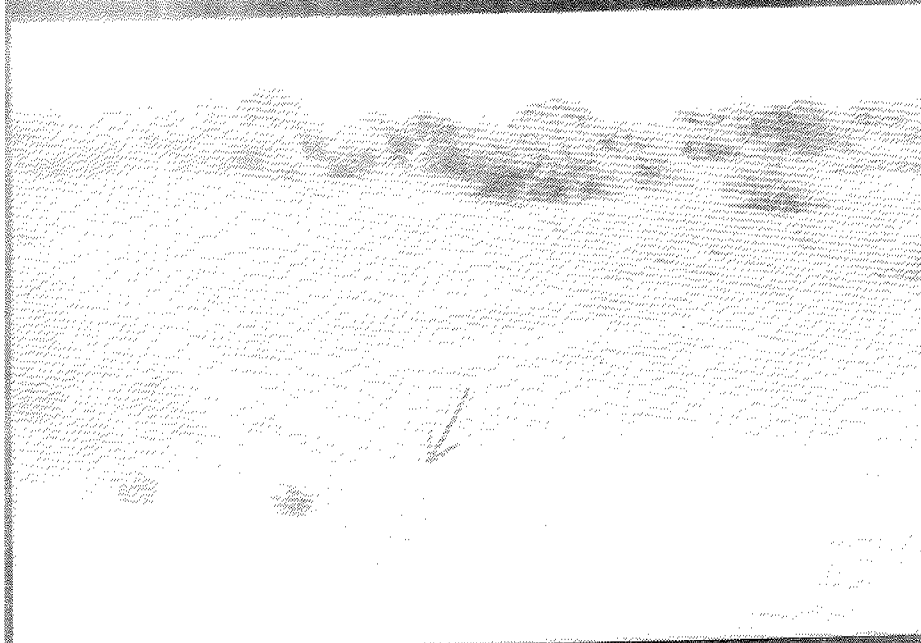


Plate 16. CrNV-02-391. Shows position  
of Plate 15 point on slight slope at  
lower edge of dune.

### Site Inventory Records

- Copies of site inventory forms are filed with the Winnemucca DO and SHPO-NSM only.



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

## ELY DISTRICT

### CULTURAL RESOURCE REPORT

CRR# 4-209(p)

Report Title: Cultural Resources Survey for 21 Shallow Geothermal Drill Holes near Monte Neva, Steptoe Valley. by Mark Henderson

#### LEGEND

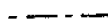
Project Clearance Area



District Boundary



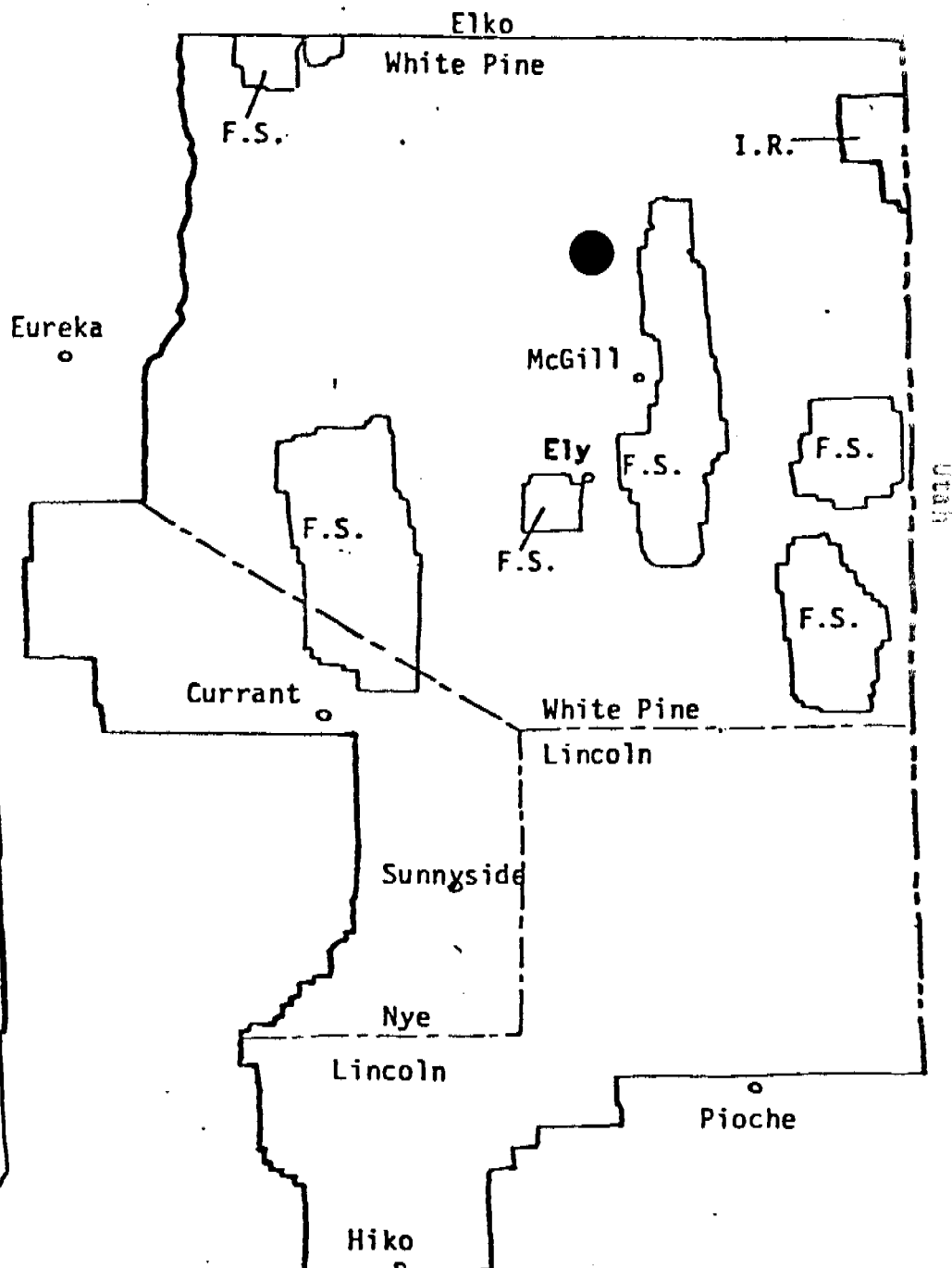
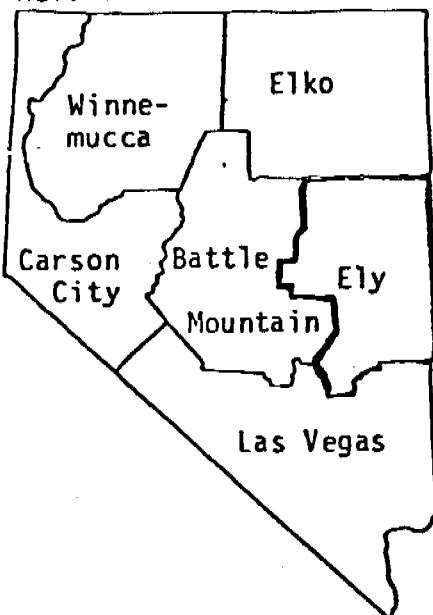
County Boundary



National Forest



#### Nevada BLM Districts





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

BLM Report No. 4-209(p)

## Cultural Resource Report

Project: Cultural Resource Survey for Geothermal Shallow Gradient Drill Holes near Monte Neva, Steptoe Valley

Dates of Field Operations: March 10, 14, 21, 1978

Archaeologist: Mark Henderson, Ely District Office, White Pine County, Nevada

Legal Description: 21 Drill Sites located in Townships 21 and 22 North, Ranges 63 and 64 East. See maps and Table.

Map Reference: BLM Planning Unit Map, Steptoe Valley 04-04, 1968, Cherry Creek Planning Unit, Egan Resource Area

Research Objectives: Cultural Resource Inventory, literature review, sampling design and clearance. Initiation of this project in the field led to development of a small quadrant sample examination form. Literature survey suggested that enough field work had been done in the project area to start making some generalizations about frequency and type of archaeological manifestations encountered.

### Existing Data Review:

National Register: The Federal Register of March 7, 1978, was consulted as was the cumulative Register up to 1977. One existing National Register property, Fort Schellbourne, is located in the general project area. A brief synopsis of this site can be found in Mordy and McCaughey (1968:216). This site is recorded in the Ely District BLM files as Hs27-04-42. This site will not be affected in any way by the drilling project.

Other historical sites in the vicinity may have potential as National Register properties. Certainly this is the case with the Pony Express Route (Mordy and McCaughey 1968:234-238 and BPEC 1975). Also of potential register quality is the Route of the Northern Nevada Railroad which follows the west side of Duck Creek through the center of the area. This route was constructed in 1905-1906 (Mordy and McCaughey 1968:244). Of particular interest in the immediate area of the Geothermal Drill sites is a very well preserved railroad building at Cherry Creek Station.

BLM District Files: A surprising number of cultural resource reports have emanated from the area under direct investigation and from the surrounding townships as well. Several of these reports have yielded positive cultural resource materials and this data deserves some synthesis.



*Save Energy and You Serve America!*

From within the area of map 1 come the following reports: 4-22(p) a fence-building project, 4-51(p) clearance for 23 geothermal drill holes, 4-62(p) a single geothermal drill hole, 4-164(p) a spring development and pipeline, 4-24(n) a Pony Express wayside exhibit, and 4-123(n) a land exchange. All the positive reports include aboriginal remains except 4-12(p) which is positive only by virtue of modern materials probably dating within the past 50 years. Reports 4-62(p) and 4-164(p) report on fairly extensive sites of prehistoric/aboriginal lithic materials with no diagnostic materials reported. Report 4-51(p) shows a total of three separate artifacts found at Drill Hole #6 and Drill Hole #13 (see map).

Several additional reports to the north of the immediate 4 Township area show a similar scattering of positive and negative cultural resource findings. These reports provide background to the kind of results that might be expected from survey in the general region. Report 4-9(p) records a major site with lithics and ceramics near Cherry Creek. Report 4-40(p) lists a diversified assemblage of ground stone, ceramics and extensive lithic scatter along Duck Creek. Report 4-42(p) lists an isolated mano at one locality and a single basalt roughout at another. Both areas appear to be alkalai flats with very sparse and scattered vegetation in the bottoms of Steptoe Valley. Finally report 4-35(n) lists no cultural properties of aboriginal origin.

Published sources: As usual, the major published source for the area is Steward's now classic work (1970). On page 121, Steward lists six major winter camps in the Steptoe Valley. These camps have been plotted on our Map 1 based on Steward's figure 11. Steward's information is no more than suggestive of the types of subsistence activities that might be expected in various sites and seasons. Thomas' model (1973) which mechanically regulates settlement location by seasonal resource availability must be independently tested for this portion of the Great Basin to be accepted. It does appear that if Steward's winter camp locations are substantially correct for the Steptoe Valley, settlements occurred in two different environmental settings: water sources in the valley bottoms and water sources at the mountain front. Actually on the ground substantiation of the site locations provided in Map 1 (this report) may have occurred in the case of BLM Report 4-9(p) near Cherry Creek and at Fort Schellbourne (Steber and Steber 1978:4). Attempts to check out the area around Monte Neva Hot Springs for a major site were foiled during the course of this report by the difficulty of obtaining access to private land and poor weather once the necessary permission was obtained.

Area and Environmental Setting: Extensive repetition of wildlife and vegetation observations already made in other reports would be largely redundant. The area of the 21 Drill Hole locations in this report are characterized by a great deal of environmental diversity, from ecotonal pinyon and juniper stands at higher elevations on the mountain flanks, to extremely tolerant shrub species in the basin bottoms. Individual conditions for many of the drill holes are listed on the "impact area observation forms." These forms were utilized only for holes visited on March 14 and 21. This project formed the initial development and use of this form. From the perspective of

resources that might have been useful in a stone-age hunting and gathering economy very little was seen. A few jackrabbits and two sandhill cranes formed the only feasible native animal food sources. Grasses are almost non-existent in the area, although they may have been more available before current grazing practices altered the environment. Shrubs were apparently of little economic value. Extensive pinyon stands do occur in the Egan Range to the west and the Schell Creek Range to the east. Marsh and riparian vegetation may have once been more extensive along Duck Creek. Mineral resources, likewise seem rather limited. Large size minerals or rocks exhibiting conchoidal fracture were non-existent except where imported by humans. The gravels of predominant siltstone are not large enough for building material except on the upper reaches of the alluvial pediments. At the site recorded during the current survey (BLM #Cr27-04-398), several pieces of silicified siltstone seemed to be chipped as part of a core reduction process, but this too may have been human importation?

Water: Water was available in Duck Creek during the course of this survey. Before industrial use of the water supply by the copper smelter (at McGill) and by irrigation in the Duck Creek Basin and Steptoe Valley, this was probably a permanent flowing source with associated marshy areas. Indian Creek and several springs in the surrounding mountains may have provided additional supplies.

Field Examination Techniques: Drill sites were located on the most detailed map available. Some difficulty was encountered in identifying map locations provided. Since a great deal of flexibility is available in the placement of shallow geothermal holes, locations were chosen (or changed) for convenience of access and identification. All drill holes are located immediately adjacent to or within the confines of existing roads or tracts. Drill hole 52 was moved so as to completely avoid an archaeological site (BLM #Cr27-04-398) and drill hole 67 was relocated to avoid a protected sage grouse breeding locality. Drill holes 13, 55, and 56 may similarly be relocated or not drilled to avoid this conflict with wildlife habitat.

Each drill site investigated was located by vehicle keeping track of odometer readings from known locations. This was done with the use of the GeoThermal Services Geologist, Steve Mette, who drove and navigated, and by BLM archaeologist, Mark Henderson, who navigated. When a drill site was located, it was flagged (if it were not previously flagged). An area of approximately 50 meters on a side was then systematically walked. These areas always adjoined a road on one side. The areas were walked with approximately spaced transects of 10-meter width and by completely walking the perimeter of the area. A pedometer which registered paces was used and consistently showed 300-350 paces per drill site. Observations elicited on the "Impact Area Observation Form" were filled out during the course of the onsite investigation, and after each investigation before going on to the next site. About 10-15 minutes was spent by the archaeologist on each drill site, with an average of about 40-45 minutes for locating each site and driving between sites.

Findings: Taken by themselves the findings of this one survey of 21 geothermal drill hole locations have very little significance. Twenty of these locations resulted in no observations of cultural resources. From a sampling standpoint, this information begins to take on significance, however.

On the basis of 24 previously cleared geothermal drill sites, we might have expected that some archaeological materials would be found. In fact, it might have been expected that one out of every eight drill sites would yield artifactual material. With the addition of the 20 independent drill sites discussed here we might expect one in eleven drill sites to produce archaeological materials. However, these figures have very little value in actually predicting where archaeological materials will be located. From a management perspective, the data is not sufficient to tell us where we do not have to look for archaeological materials, and this would be the practical result of such considerations.

From the perspective of the "number of sites" per acre investigated, though, there may be practical results for long-term management. In essence, we have here a very crude model that might suggest that we will encounter one archaeological manifestation for every eleven randomly placed quadrants examined. It is interesting to note how this compares with quadrant data gathered by Morenson, Henderson and Nielsen in a radically different environment and quadrant size (1976).

In the Morenson study, quadrants of 200 x 200 meters were examined covering 10 percent of an arbitrarily aligned rectangular unit 2 km wide and 12 km long in Northern New Mexico. Items of aboriginal manufacture were encountered in 32 out of 60 of these quadrants. The quadrants were examined for common variables that might allow prediction of occurrence of materials as a part of analysis. Even with this sophisticated purposive sampling design, it was impossible to determine what factors led to the artifact occurrences in space. However, it was possible to make some generalizations about the occupation of the area. In short, it was possible to go from the specific to the general on the basis of the samples, but not to go back again to specifics. Some important generalizations about occupation in the area were made.

Even with the large differences in sampling and methodology between that study and this one, this study still allows some interesting and potentially useful generalizations for resource management. For instance, the density of cultural resources in the area is not so great as to cause a serious conflict with a geothermal testing program of the scope of the current one. Wildlife resources (the grouse strutting ground) are in much more critical conflict.

Taking the 44 geothermal drill location surveys so far accomplished, certain quantitative generalizations can also be made which may have utility in future clearance studies in the area. The area surveyed intensively consists of about 100,000 square feet for the 44 drill locations. The sample universe



might be arbitrarily defined as about 156 sections (square miles) of land as outlined on map 2. So less than .00025 percent of the target impact area has been inventoried for cultural resources, in an intensive manner. From the cultural resource inventories undertaken so far, there is a faint suggestion that large lithic scatters can be expected in the valley bottoms in 2 out of 20 or so holes examined in that environment. Isolated lithic finds can be expected on the alluvial pediments in about 2 out of 20 holes examined in that environment. No holes have been planned in the steeper mountain and canyon environment so it is difficult to make generalizations about cultural resources here, within our arbitrarily defined survey area. However, one large lithic scatter has been located about a spring site as a part of a differently designed cultural resource survey methodology in the mountainous area of the Egan Range (report BLM # 4-164(p)). However, this survey and several others in the area do not have the same seemingly "random" location with respect to surface resources as the drill hole studies conducted so far, and therefore, do not seem to provide the same "unbiased" generalizations. Taken to extremes, the data gathered so far might suggest that in the valley bottom environment, we might expect extensive cultural resources (a site) for every 225,000 square feet surveyed (or one site per every 5 acres).

In conclusion, it must be said that a great deal more "statistical" consideration could be given to the Geothermal drill hole surveys undertaken so far in the area. This extended discussion was designed to show that cultural resource surveys of small scope, if carefully designed can begin to provide useful management data, as well as interesting scientific data. The ability to draw together information from different surveys and derive synthetic statements should not be lost as a goal of "clearance surveys" of apparently small scope and little significance by themselves. This synthetic approach, however, is based on adequate records management which is a mammoth task compared to individual field clearance jobs. The cultural resource management problem in this particular case is not inflexibility and conflict in location of land modification projects with respect to archaeological properties, it is continuing to perform the cultural resource inventories as a synthetic rather than a project specific basis. The cultural resources in the area can be seen as fairly pervasive, but the impacts of drill holes can be minimized or eliminated with currently existing scope of the energy related explorations and the resource management procedure.

National Register Recommendations: The resources encountered during the course of this survey do not warrant recommendation for National Register status at this time. This does not mean that future studies in the area will not encounter National Register eligible properties. Additional inventory might be made along the Nevada Northern Railroad and the Pony Express route, areas of potential register significance. With the projected density of archaeological materials of aboriginal nature in the vicinity, it is also possible that exceptionally fine representative localities of this lifestyle will be found in the future. No National Register or eligible properties will be affected by drilling operations.

Summary and Mitigation Recommendations: As discussed above, the nature of the current Geothermal exploration process is not seen to be in conflict with the conservation of cultural resources. In fact, as long as in field archaeological clearances are performed, the Geothermal activities have the effect of enhancing archaeological values by adding them to the inventory. If a great increase in volume of activity were to occur in the area, potential damage could occur to resources by damaging archaeological sites with increased road traffic by vegetation removal and erosion. So far it has been possible to locate all geothermal test sites on existing roadways. Damage to the environment is therefore kept to a minimum; only a change in scope of the activity is seen as a potential hazard; therefore, cultural resource clearance is recommended.

Note: "This Cultural Resources Investigation has been conducted in accordance with techniques described which are considered to have been adequate for evaluating any Cultural Resources that could be affected by this project. However, if during the course of any project activities that may be authorized subsequent to the submission of this report notable Cultural Resources should be discovered, care shall be exercised so as not to disturb such Resources and the Ely District Manager shall be informed immediately."

CR Inventory Acreage:

Extensive:

Intensive: 10.84 acres/4.38 ha

Time Expenditure:

Field: 24 hours including travel

Office: 18 hours

TOTAL: 42

Submitted by: Mike Scott Anderson . Date: March 27, 1978

Title: Archaeologist

Reviewed: W. Cassidy . Date: 3-30-78  
NSO CMS or DO Archaeologist

Legal Descriptions

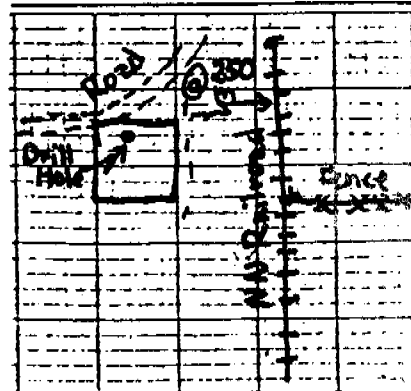
Drill Hole #	Township	Range	Section	$\frac{1}{4}$	$\frac{1}{4}$
64	21 N.	63 E.	35	NE	NW
63	21 N.	63 E.	22	NE	SE
61	21 N.	63 E.	15	NE	NW
60	21 N.	63 E.	12	NW	NE
7	22 N.	63 E.	35	SW	SE
59	21-22 N.	63 E.	34, 35 3, 2		
57	22 N.	63 E.	27	SE	NE
54	22 N.	63 E.	23	SE	NE
13	22 N.	63 E.	22	NE	NW
55	22 N.	63 E.	22	NW	SE
67	22 N.	63 E.	10	NW	SW
68	22 N.	63 E.	3	NW	NW
66	22 N.	63 E.	1	SW	NW
62	21 N.	64 E.	18	SW	NE
69	22 N.	64 E.	3	NE	SW
70	22 N.	64 E.	5	SE	SW
52	22 N.	64 E.	18	NW	SE
52a	22 N.	64 E.	18	NE	SW
51	22 N.	64 E.	19	SW	SW
67a	22 N.	63 E.	8	SW	NW
56	22 N.	63 E.	15	SE	SW

BIBLIOGRAPHY

- Bicentennial Pony Express Coordinators, 1975, Pony Express Bicentennial Action and Interim Recreation Management Plan, Bureau of Land Management.
- Frederick, Larry; 1975, Construction of Egan Canyon Wayside along the Pony Express Trail for Bicentennial Celebration, Nevada BLM Cultural Resources Short Report 4-24(N).
- Frederick, Larry W.; 1976, Shell Oil Company, Steptoe Unit No. 1, Proposed Oil Well Drill Site and Access Road; Nevada BLM Cultural Resources Short Report 4-42(P).
- James, Steve R.; 1977, Archaeological Clearance of Big Rock Pipeline Extension, Nevada BLM Cultural Resource Report 4-164(P).
- Jonart, Eugene A.; 1975, Gold Canyon Fence and Cattleguard, Cultural Resources Short Report, Nevada BLM 4-12(P).
- Mordy, Brooke D. and Donald L. McCaughey; 1968, Nevada Historical Sites, Nevada State Parks Division.
- Morenon, E. P., Jeff Nielsen and Mark Henderson; 1976, The Development of Conservation Techniques and a Land Use Study Conducted near Rancho de Taos, New Mexico; Xerox on file U.S.D.A.-Forest Service, Carson National Forest, Taos, New Mexico.
- Paher, Stanley W.; 1970, Nevada Ghost Towns and Mining Camps, Berkeley, California: Howell-North Books.
- Randolph, Bob; 1974, U.S.G.S. Geothermal Gradient Test Holes, Nevada BLM Cultural Resource Report 4-9(P).
- Seelinger, Evelyn; 1975, Cultural Resource Investigation for Public Sale Application N-5808 (UTA); Nevada Archaeological Survey, Nevada BLM Cultural Resources Short Report 4-35(N).
- Seelinger, Evelyn; 1975, Cultural Resource Investigation for Public Sale Application N-5704 (UTA); Nevada Archaeological Survey, Nevada State Museum.
- Sjogren, Ronald E.; 1976, Hunt Energy Corp.--GeoThermal Services, Inc., Twenty-three (23) proposed shallow temperature gradient drill sites. Nevada BLM Cultural Resources Short Report 4-51(P).
- Sjogren, Ronald E.; 1976, UTA Public Sales Cases N-5821 and N-5862; Nevada BLM Cultural Resources Report 4-123(N).
- Soule, William E.; 1976, Hunt Energy Drilling Site (Geothermal) #24; Nevada BLM Cultural Resource Report 4-62(P).
- Steber, Rick and Kristi; 1978, Juy and Ruth Russell: Living with History; Ruralite, March 1978, Mt. Wheeler, Vol. 25, No. 3:3-5.
- Thomas, D.H.; 1973, An Empirical Test of Steward's Model of Great Basin Settlement Patterns. American Antiquity 38:2:155-76.

Impact Area Observation Form  
 Project GeoThermal-Monte Neva Date 3/11/78 Investigator MDH  
 Unit Designation Drill Hole 60 Size of area investigated 50x50m  
 Total # paces walked 300 (x number of observers)  
 Vegetation Sage 50% Shakeseed 50% Mormon Tea Soils Clayey w/ 1cm(max) gravels  
 Wildlife Jackrabbit Topography Steppe Valley flats, bottomlands  
 Slope 1% Aspect East Land treatment  
 Photos None

North ↑  
 Scale 50m



Time started 10:45

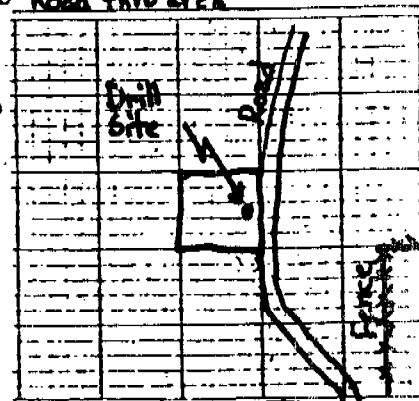
Weather

Comments:

Impact Area Observation Form  
 Project GeoThermal Monte Neva Date 3/21/78 Investigator MDH  
 Unit Designation Drill Hole 62 Size of area investigated 50x50m  
 Total # paces walked 300 (x number of observers)  
 Vegetation Shakeseed 10% Mormon Tea 5% Soils Gravels 2-4cm(max) siltstone, some quartz  
 Wildlife Topography flat valley bottom  
 Slope <1% Aspect W Land treatment Road thru area  
 Photos

Time Started: 10:25-10:45

North ↑  
 Scale 50m

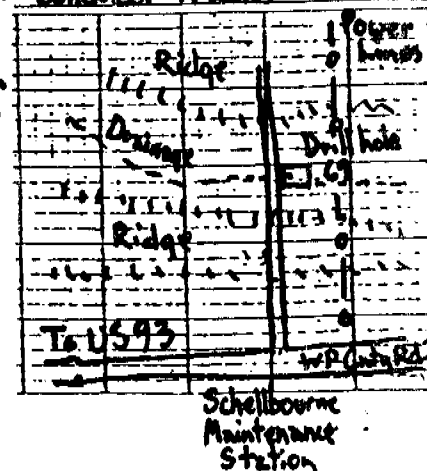


Impact Area Observation Form  
 Project GeoThermal-Monte Neva Date 3/21/78 Investigator MDH  
 Unit Designation Drill Hole 69 Size of area investigated 50x50m  
 Total # paces walked 410 (x number of observers)  
 Vegetation Shakeseed 75% Sage 20% Soils Gravels, red hve  
 Wildlife Rabbit pellets Topography Swale/drainage bottom in Pediment  
 Slope 2% Aspect W Land treatment Bulldozer tracks  
 Photos

Time: 11:05

Weather: Cloudy, Wind from NW

North ↑  
 Scale 250m



Impact Area Observation Form  
 Project Monte Nevz-GeoThermal Date 3/21/78 Investigator MLH  
 Unit Designation Drillhole 70 Size of area investigated 50x50m  
 Total # paces walked 350 (x number of observers)  
 Vegetation Snakeweed 99% Prickly Pear 1% Soils Gravel, clayey  
 Wildlife birds/sparrows Topography flat Valley bottom  
 Slope 0-1% Aspect W Land treatment County Road  
 Photos \_\_\_\_\_

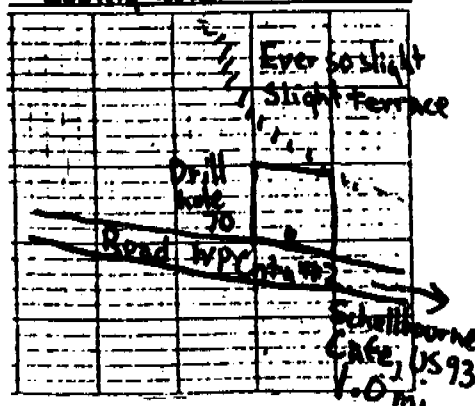
Time started 11:40

Weather \_\_\_\_\_

Comments: \_\_\_\_\_

North ↑

Scale 50m



Impact Area Observation Form  
 Project Monte Nevz-GeoThermal Date 3/21/78 Investigator MLH  
 Unit Designation Drill hole 70 52+52a Size of area investigated 50x50m  
 Total # paces walked 1300 (x number of observers)  
 Vegetation Big sage Soils See report for RLM Cr-27-04-398  
 Wildlife \_\_\_\_\_ Topography \_\_\_\_\_  
 Slope 0-1% Aspect W Land treatment \_\_\_\_\_  
 Photos 25-36 E at Schell Cracks 37 retouch piece

Time 12:10

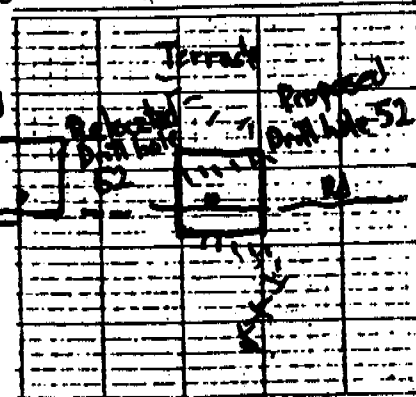
Retouched  
oboid  
flake  
r-1

from site, not collected  
photo'd



↑ N

50m

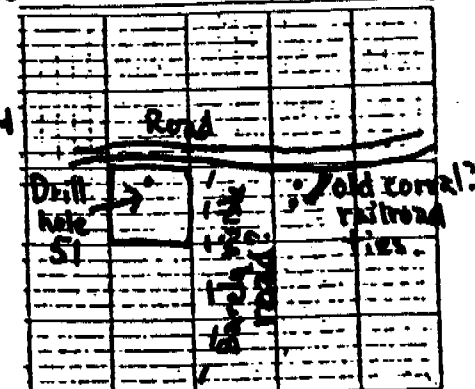


Impact Area Observation Form  
 Project GeoThermal-Monte Nevz Date 3/21/78 Investigator MLH  
 Unit Designation Drill Hole 51 Size of area investigated 50x50m  
 Total # paces walked 350 (x number of observers)  
 Vegetation Shadeleaf 90%, Sage 10% Soils clay (cracked surface) pebbles 1-2cm (max)  
 Wildlife rabbit pellets Topography level, valley bottom, slight terrace  
 Slope 0-1% Aspect W Land treatment above Dock Cr.  
 Photos \_\_\_\_\_

Time 1:30

↑ N

50m



Impact Area Observation Form

Project	<u>Geothermal - Monte Neva</u>	Date	<u>3/21/78</u>	Investigator	<u>MLH</u>
Unit Designation	<u>Drill Hole 67A</u>	Size of area investigated	<u>50 x 50 m</u>		
Total # paces walked	<u>400</u>	(x number of observers)			
Vegetation	<u>Sage 70%, Pinon/Juniper, Mesquite</u>		Soils	<u>Gravel 3-8cm, Sandy</u>	
Wildlife			Topography	<u>Mtn front, Canyon Bottom</u>	
Slope	<u>@ 5%</u>	Aspect	<u>E</u>	Land treatment	
Photos					

Weather ~~Light Rain~~ 45-50°

Comments:

North

Scale 100m

Road

Pediment Alluvial Slope

Wash

Drain Hole 67A

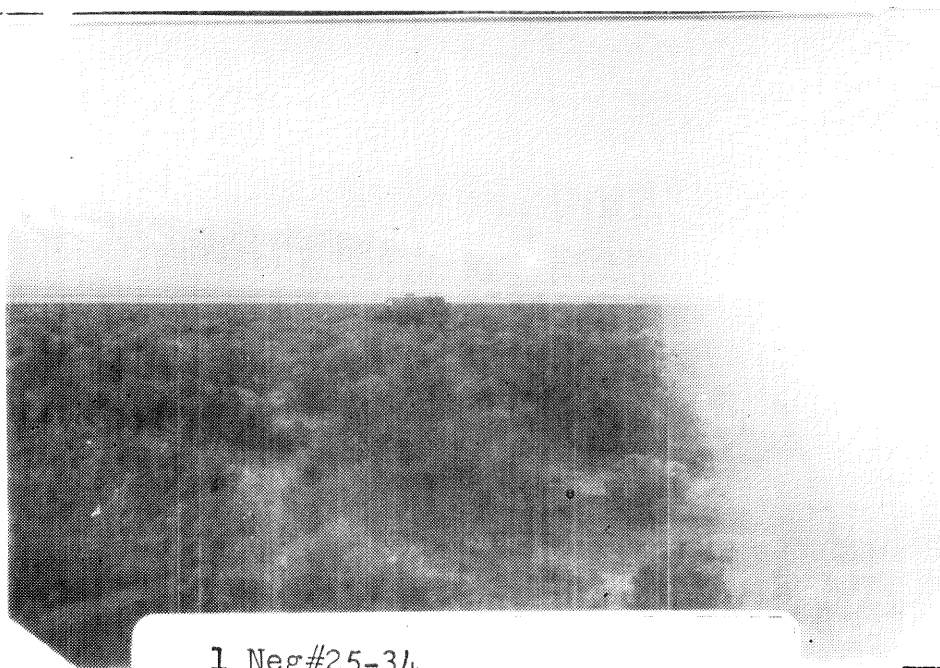
Canyon Bottom

Project GeoThermal-Monte Nera Date 3/21/78 Investigator MLH  
Unit Designation Drill Hole 56 Size of area investigated 50m x 50m  
Total # paces walked 240 (x number of observers)  
Vegetation Sage 50% of surface covered Soils 6-24 cm stones, boulders, decomposed sandstone?  
Wildlife \_\_\_\_\_ Topography \_\_\_\_\_  
Slope 5-7%? Aspect E Land treatment \_\_\_\_\_  
Photos \_\_\_\_\_

Time 2:55 = 1455

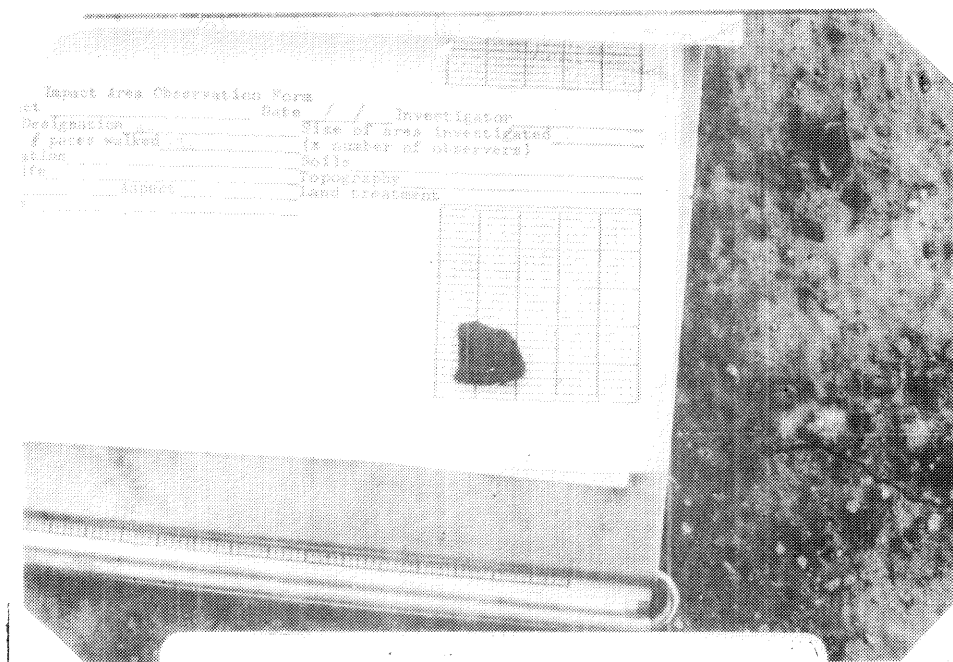
Project \_\_\_\_\_ Date    /    /    Investigator \_\_\_\_\_  
 Unit Designation \_\_\_\_\_ Size of area investigated \_\_\_\_\_  
 Total # paces walked \_\_\_\_\_ (x number of observers) \_\_\_\_\_  
 Vegetation \_\_\_\_\_ Soils \_\_\_\_\_  
 Wildlife \_\_\_\_\_ Topography \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect \_\_\_\_\_ Land treatment \_\_\_\_\_  
 Photos \_\_\_\_\_

<p>1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is responsible for the investigation.</p>	<p>2. The second step is the collection of data. This is done by the investigator who is responsible for the investigation.</p>	<p>3. The third step is the analysis of the data. This is done by the investigator who is responsible for the investigation.</p>	<p>4. The fourth step is the interpretation of the data. This is done by the investigator who is responsible for the investigation.</p>	<p>5. The fifth step is the presentation of the results. This is done by the investigator who is responsible for the investigation.</p>
<p>6. The sixth step is the evaluation of the results. This is done by the investigator who is responsible for the investigation.</p>	<p>7. The seventh step is the conclusion of the investigation. This is done by the investigator who is responsible for the investigation.</p>	<p>8. The eighth step is the dissemination of the results. This is done by the investigator who is responsible for the investigation.</p>	<p>9. The ninth step is the follow-up of the results. This is done by the investigator who is responsible for the investigation.</p>	<p>10. The tenth step is the final report of the investigation. This is done by the investigator who is responsible for the investigation.</p>



1 Neg#25-34

Drillhole 52A and Site Cr27-04-398. Van is on Drillhole 52A. Note Sage and sandy soil in foreground, and grey-white shadscale vegetation change in mid-photo. WNW



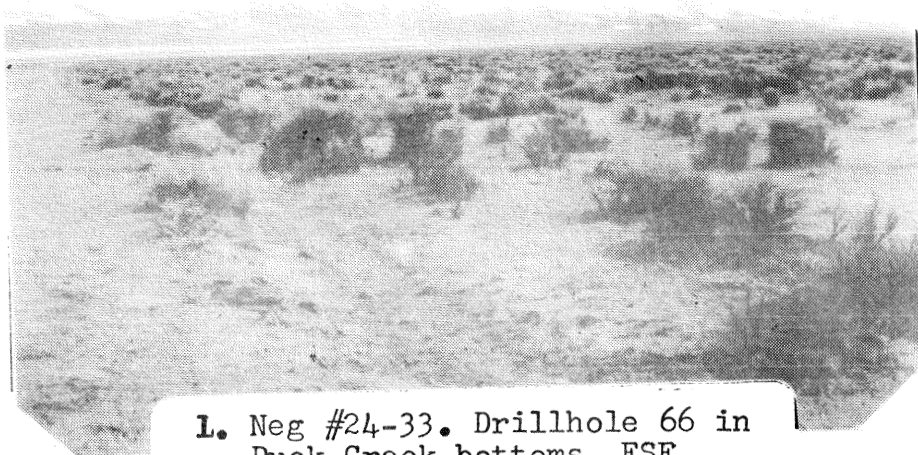
2 Neg #25-33

Obsidian Artifact from site Cr27-04-398. retouched piece. Note also small gravel and sandy/loamy soil.

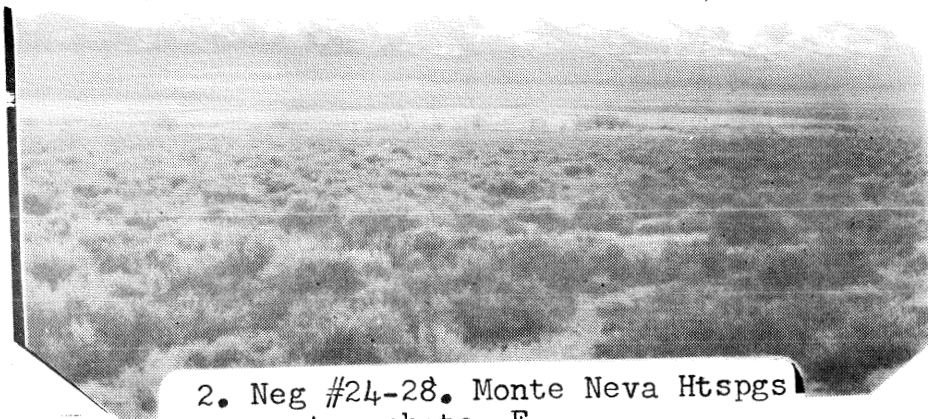


DRILLHOLE ENVIRONMENTS

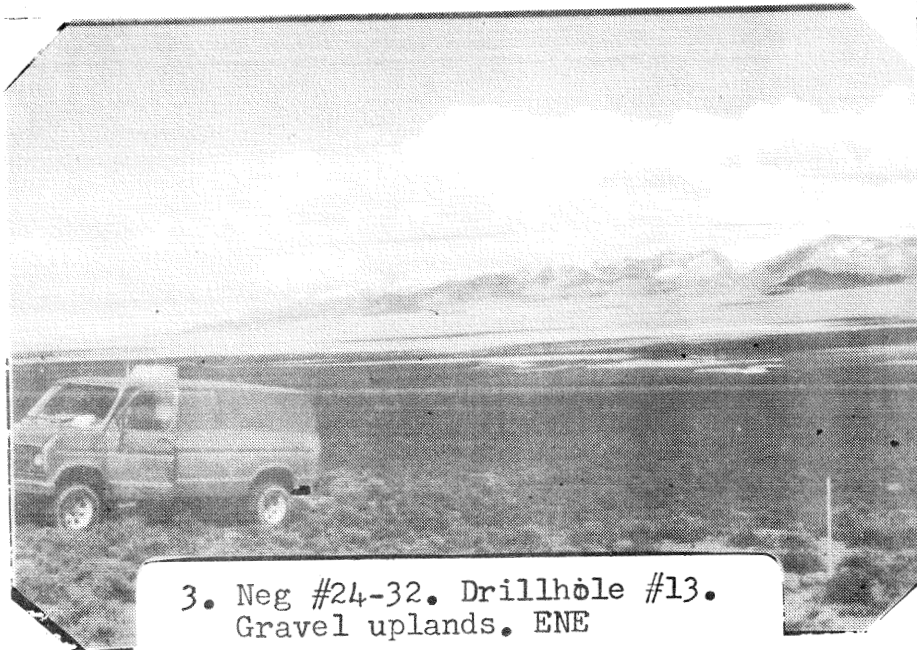
CR Report: BLM 4-209(P)



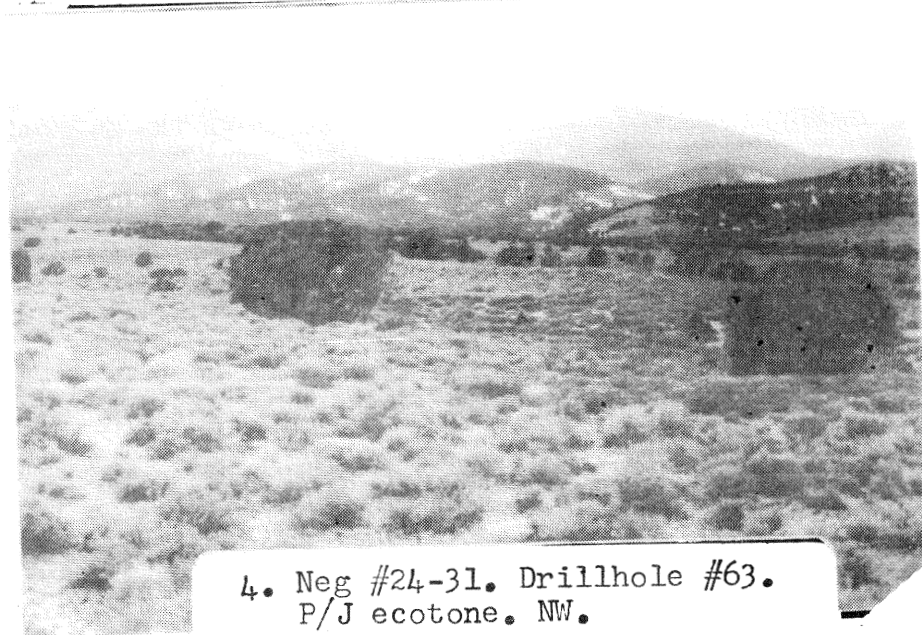
1. Neg #24-33. Drillhole 66 in Duck Creek bottoms. ESE



2. Neg #24-28. Monte Neva Htspgs center photo. E



3. Neg #24-32. Drillhole #13. Gravel uplands. ENE



4. Neg #24-31. Drillhole #63. P/J ecotone. NW.



1: Neg #24-30



2: Neg #25-27

# Drilling: Before, Starting and After

1. Drillhole #7 before drilling and after archeological clearance. Looking SW
2. Drillhole #7 with drilling rig preparing to set up on drill hole. Looking WSW
3. Drillhole #7 after drilling and during resistivity monitoring. Note drilling mud, trampled vegetation, and some litter. Looking WSW

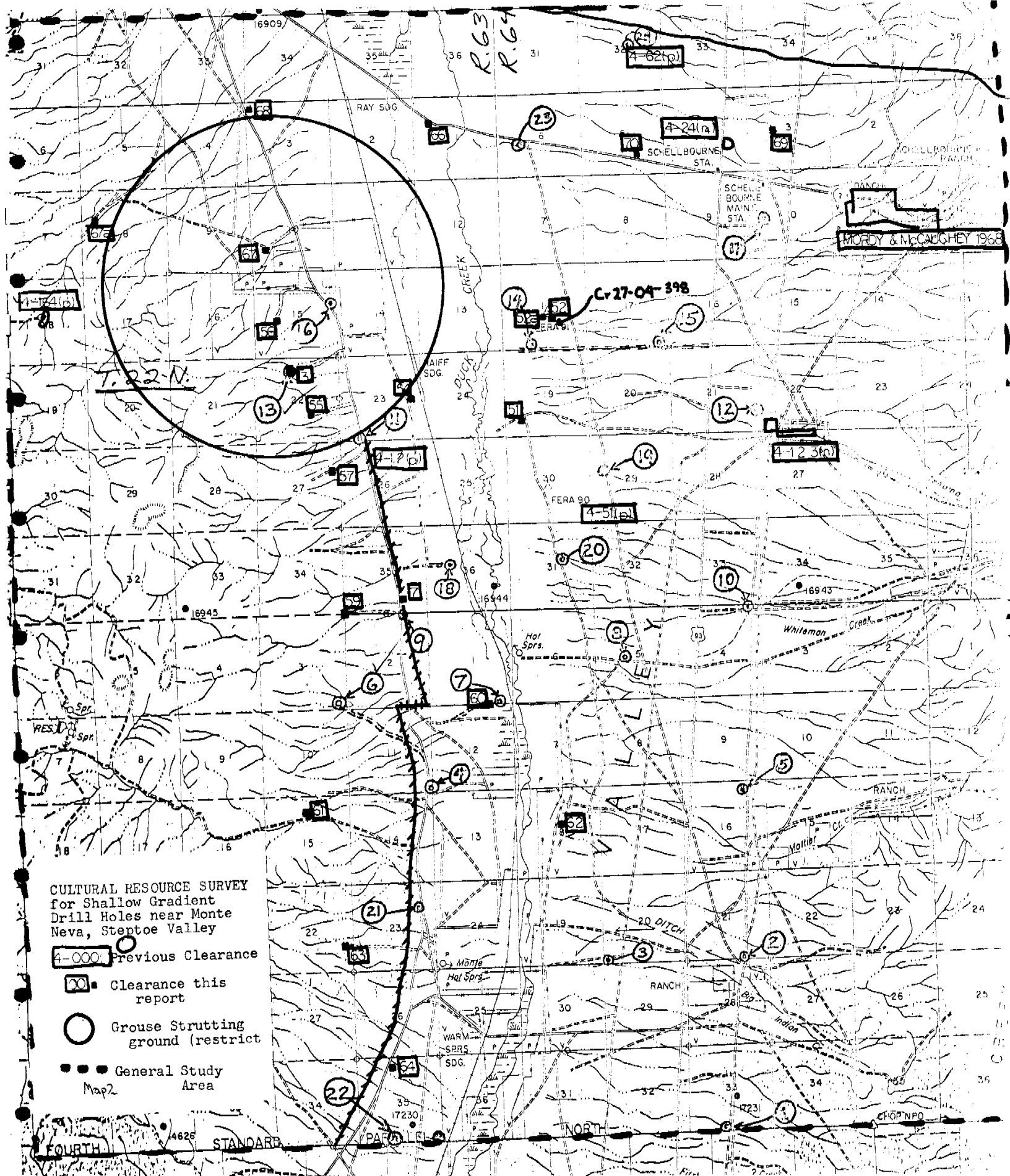


3: Neg #25-32

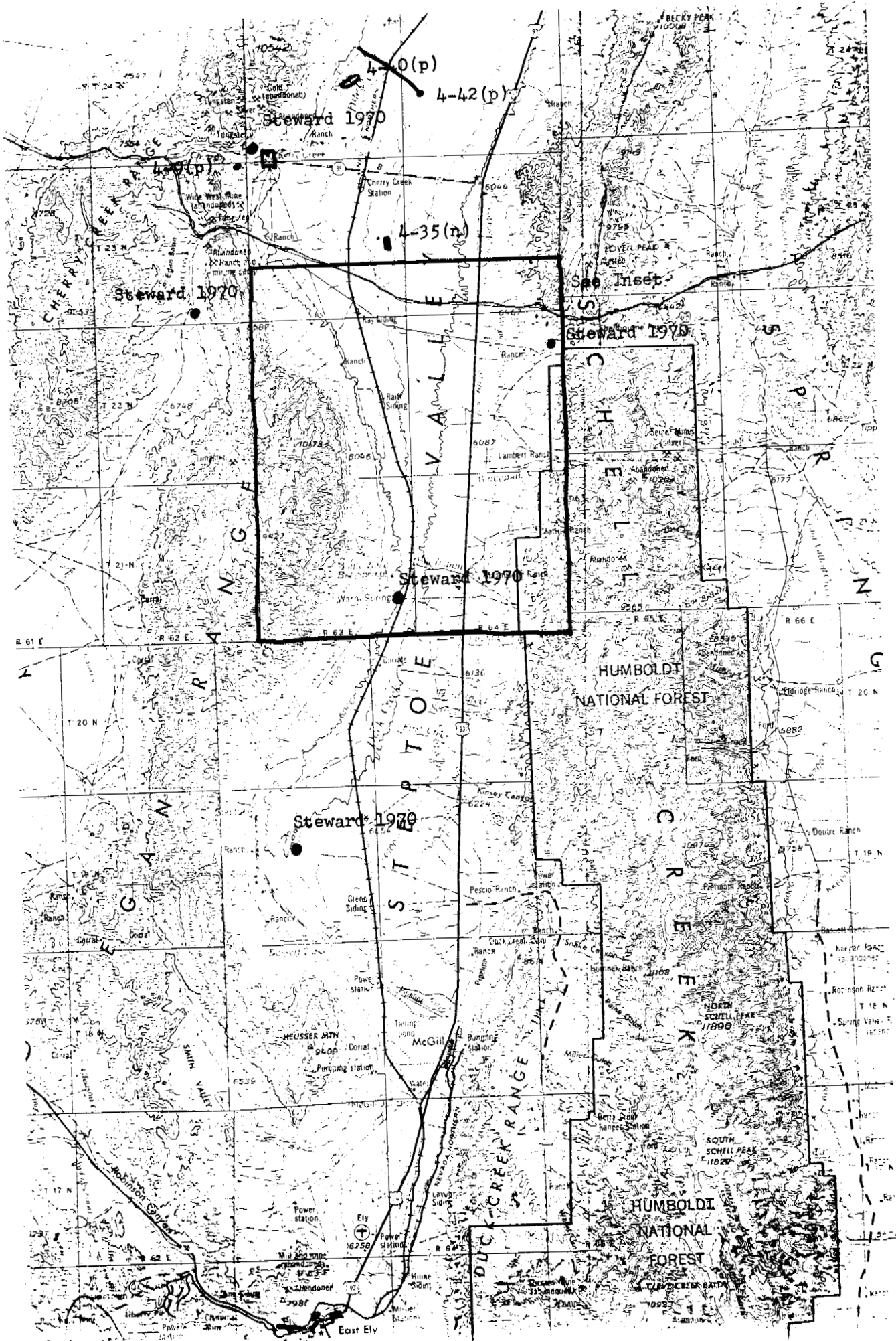
Bureau of Land Management, Nevada  
Contributions to the Study of Cultural Resources  
Technical Report No. 3

Oil and Gas/Geothermal Program Inventories. 1979

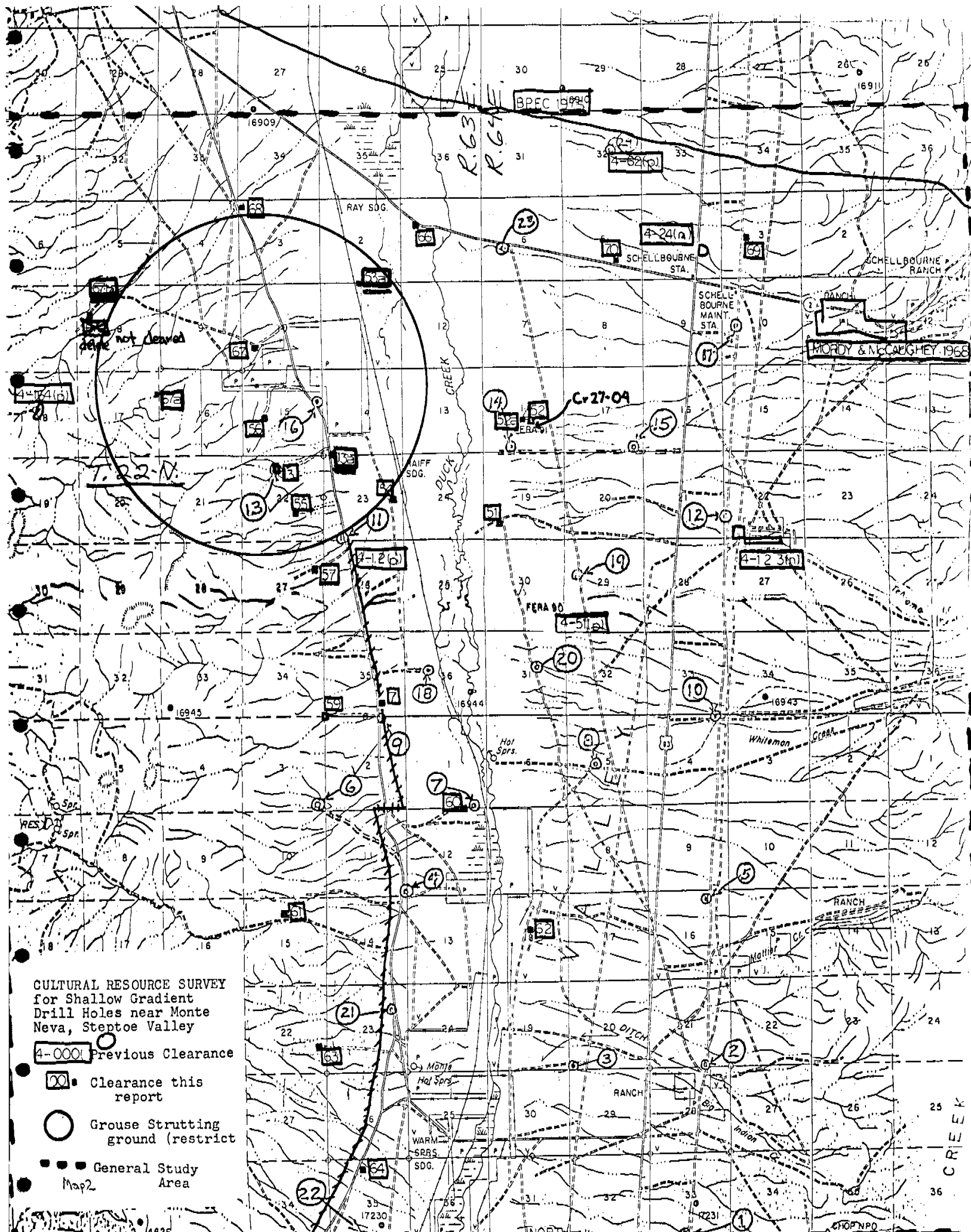
NOTE: The original page containing a map/figure/record with specific locations of archaeological resources has been deleted from this report in order to protect the confidentiality of the site location. Qualified persons holding a valid Bureau of Land Management, Nevada, cultural resources special use permit with need to examine this information may contact the appropriate BLM field office for further information.







Known Archeological and Historical Localities in Monte Neva Vicinity



CULTURAL RESOURCE SURVEY  
for Shallow Gradient  
Drill Holes near Monte  
Neva, Steptoe Valley

4-0000 Previous Clearance

Clearance this  
report

Grouse Strutting  
ground (restrict)

General Study  
Area

Map 2

5. Findings: ~~No cultural resources were found of a significant nature in any of the three new drill hole areas examined (Holes 67b, 13a and 53a). Several recent tin cans and a recent brown glass bottle were found (at 67b and 53a respectively). This adds an area of approximately 1.54 acres to the "random" sample of the area investigated and increases the sub sample size in various environments in the study area (67b canyon in upper pediment, 13a mid-pediment flatlands, 53a bottomlands adjacent to Duck Creek).~~

16. National Register Recommendations:

No new materials were found which require additional register recommendations beyond those in report 4-209(p).

17. Summary & Mitigation Recommendations: ~~Proposed geothermal exploration at the three additional sites will have no foreseeable affect on the cultural resources of the area. The opportunity to visit the area again did allow for examination of the Monte Neva hot spring mound and an interview with a local land lessee (a young Bell). This interview provided information that there may be a site between the current Bell ranch house and the Monte Neva Spring Mound. Several artifacts were photographed that may be from this vicinity (with the permission of the owner) and a potential new fossil locality in the canyon and mountains due east of the Bell Ranch that may contain trilobites was also discussed and a specimen photographed.~~

Note: "This Cultural Resources Investigation has been conducted in accordance with techniques described which are considered to have been adequate for evaluating any Cultural Resources that could be affected by this project. However, if during the course of any project activities that may be authorized subsequent to the submission of this report notable Cultural Resources should be discovered, care shall be exercised so as not to disturb such Resources and the Ely District Manager shall be informed immediately."

18. CR Inventory Acreage:

Extensive: \_\_\_\_\_.

Intensive: 1.54 acres.

19. Time Expenditure:

Field: 5hrs incl travel.

Office: 2 hrs.

TOTAL: 7 hrs.

20. Submitted by: Mark Henderson. Date: 27 April 1978

Title: Archeologist.

Reviewed: W. Cassidy. Date: 5-1-78.

NSO CMS or DO Archaeologist

UNITED STATES GOVERNMENT

# Memorandum

TO :

DATE: 3/31/78

FROM : Mark Henderson

SUBJECT: Continued exploration in the Monte Neva Known Geothermal Area.

While the current report was in preparation the attached notice of intent for additional Geothermal drill holes was received. This illustrates the problem of specific small scale clearance investigations performed in the scope of a much broader "industrial" development plan. I offer no current solution, this only illustrates that a fourth report will be added for Cultural Resource investigation within the study area here defined.





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CULTURAL RESOURCES REPORT FIELD WORKSHEET

Addendum to

1. CR Report # 4-209 (p) . 2. Date(s) of field ops: April 26, 1978 .
3. Archaeologist or DAT: Mark Henderson .
4. Project: Monte Neva Geothermal .
5. District Office: Ely .
6. State: Nevada . 7. County: White Pine .
8. Legal Description: Revised 67a: T22N R63E, Sec 17 SE/4 NE/4, 67b: Sec 8 NE/4 NW/4, 53a: Sec 2 SE/4, SW/4, 13a: Sec 4 SW/4 SW/4. .
9. Map Reference: Steptoe Planning Unit, 1"=1mile, BIM .
10. Research Objectives: Because of conflict with wildlife use (sage grouse strutting grounds) it was determined that 3 geothermal drill holes could be moved adjacent to existing automobile road and railroad without significant disturbance of grouse habitat. .
11. Consultations/Existing Data Review: See report 4-209(p). .  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. Area & Environmental Setting: See report 4-209(p). .  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
13. Water: See report 4-209(p). .
14. Field Examination Techniques: Same as for report 4-209(p) .  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Continued on reverse)

ATES  
THE INTERIOR  
MANAGEMENT

MAR 28 1973

Notice Number

Bureau of Land Management  
GEOTHERMAL RESOURCES  
OPERATIONS

## Applicant(s)

Hunt Energy Corporation  
Geothermal Division

## Address (include zip code)

2500 First National Bank Bldg.  
Dallas, Texas 75202

## Operator

Hunt Energy Corporation  
Geothermal Division

## Address (include zip code)

2500 First National Bank Bldg.  
Dallas, Texas 75202

## Contractor(s)

GeoThermal Services, Inc.

## Address (include zip code)

10072 Willow Creek Road  
San Diego, California 92131

hereby apply for authorization to conduct exploration operations pursuant to the provisions of 43 CFR 3209 now or hereafter in force across and upon the following-described lands (give description of lands by township, attach map or maps showing lands to be entered or affected)

T. 21, 22 N. R, 63, 64E. (see attached map #9-77)

## Type of operations to be conducted (give brief description)

Drilling of Shallow Temperature Gradient Holes

Exploration operations will be conducted during the period (date) from March, 1978 to January, 1979

Attached ☐ \$ Surety bond ☒ Rider to Nationwide bond ☐ Rider to Statewide bond ☐ Bond to be furnished  
Nationwide Bond # SL 516 63 11

Upon completion of exploration operations the undersigned agrees to notify the Authorized Officer that authorized exploration operations have been completed in conformance with the general and special terms and stipulations of the notice.

The undersigned hereby agrees (1) that he will not enter upon the described land until he has been informed in writing whether there are special stipulations applicable to his Notice of Intent, as to either time or method of operation or otherwise, and, if there are such stipulations, what those stipulations are, (2) that he will comply with those special stipulations, if any; and (3) that he will not enter upon the described lands until his entry has been approved by the Authorized Officer.

The undersigned agrees to be bound by the terms and conditions of this notice to conduct exploration operations when approved by the Authorized Officer.

The undersigned agrees that the filing of this Notice under the regulations (43 CFR Subpart 3209) does not vest or confer any preference right to a geothermal resources lease.

The undersigned agrees further that all exploration operations shall be conducted pursuant to the following terms and conditions:

1. Exploration operations shall be conducted in compliance with all Federal, State, and local laws, ordinances, or regulations which are applicable to the area of operations including, but not limited to, those pertaining to fire, sanitation, conservation, water pollution, fish, and game. All operations hereunder shall be conducted in a prudent manner.
2. Due care shall be exercised in protecting the described lands from damage. All necessary precautions shall be taken to avoid any damage other than normal wear and tear to improvements on the land including, but not limited to, gates, bridges, roads, culverts, cattle guards, fences, dams, dikes, vegetative cover, improvements, stock watering, and other facilities.
3. All drill holes shall be capped when not in use and appropriate procedures shall be taken to protect against

hazards in order to protect the lives, safety, or property of other persons or of wildlife and livestock.

4. All vehicles shall be operated at a reasonable rate of speed and, in the operation of vehicles, due care shall be taken to safeguard livestock and wildlife in the vicinity of operations. Existing roads and trails shall be used wherever possible. If new roads and trails are to be constructed, the Authorized Officer must be consulted prior to construction as to location and specifications. Reclamation and/or reseeding of new roads and trails shall be made as requested by the Authorized Officer.
5. Upon expiration, conclusion, or abandonment of operations conducted pursuant to this Notice, all equipment shall be removed from the land, and the land shall be restored as nearly as practicable to its original condition by such measures as the Authorized Officer may specify. All geophysical holes shall be safely plugged. The Authorized Officer shall be furnished a Notice of Completion of Geothermal Resource Exploration Operations (Form 3200-3) immediately upon cessation of all such operations and shall be further informed of the completion of reclamation work as soon as possible.
6. Location and depth of water sands encountered shall be disclosed to the Authorized Officer.